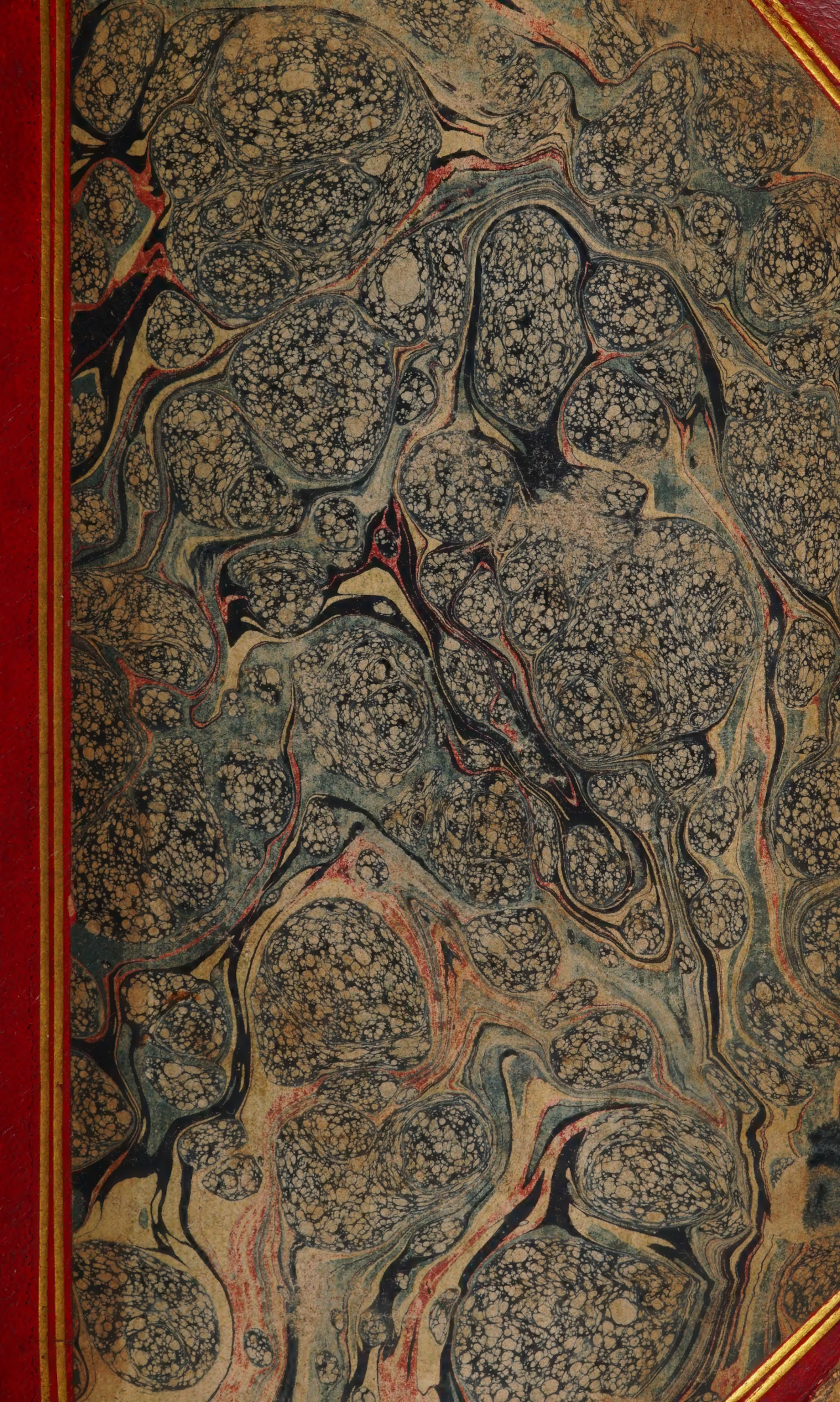

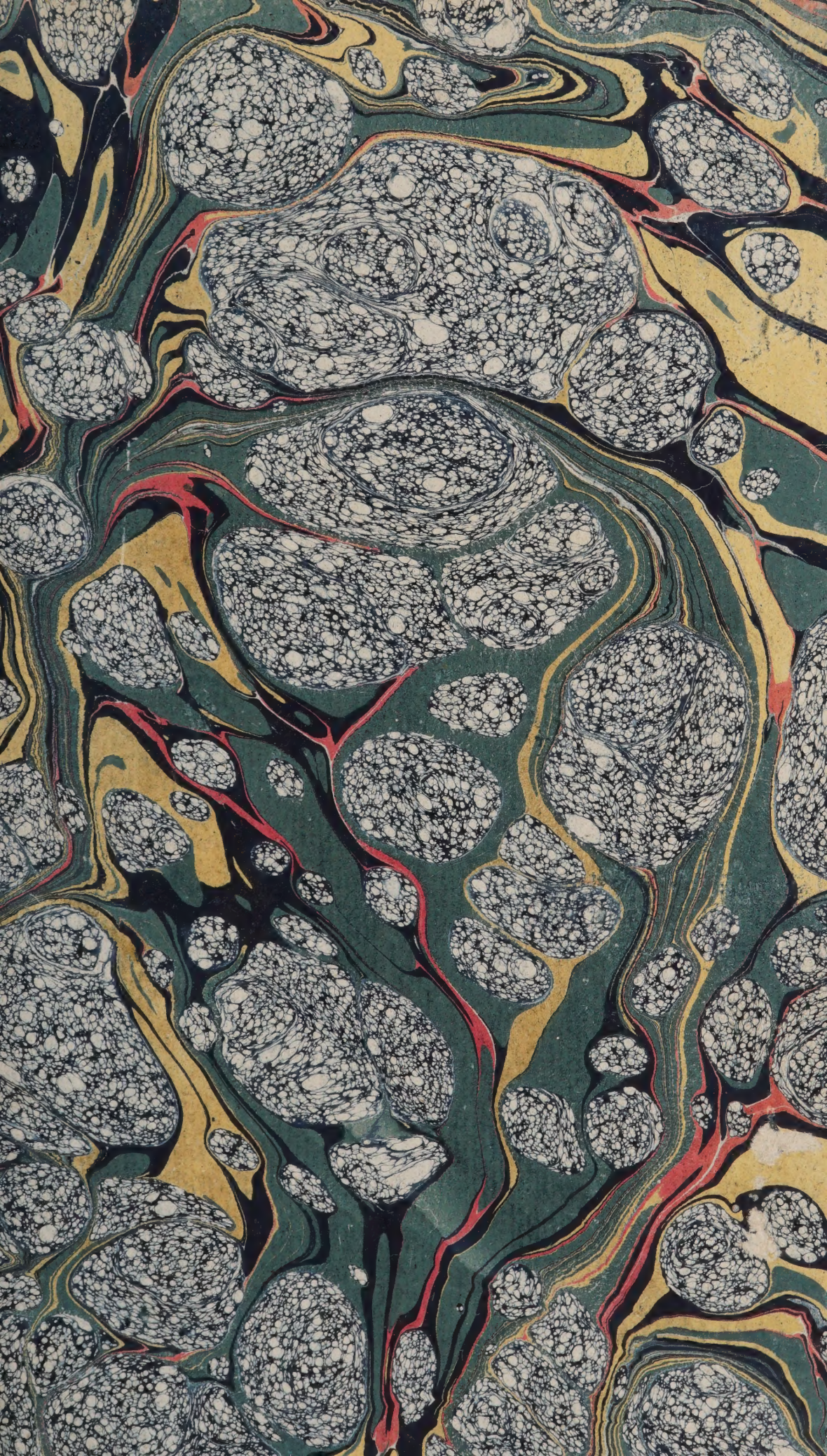

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19/t

FACTS DECISIVE

IN FAVOUR

OF THE

COW-POCK:

INCLUDING

AN ACCOUNT OF THE INOCULATION

OF THE

VILLAGE OF LOWTHER.

BY

ROBERT JOHN THORNTON, M.D.

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1802.

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The higheſt honours have been conferred on heroes both ancient and modern, who have deſolated provinces by the deſtruction of their fellow-creatures: trophies, monuments, and ſtatues, have been erected to commemorate their ſanguinary deeds; but the altar of JENNER is not conſecrated by hecatombs of the ſlain; *his* claim is that of having ſaved and multiplied the human race, of having arreſted the arm which ſcatters death and miſery over the univerſe.

DR. LETTSOM.

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CONTENTS.

PAGE

Dedication - - - - - - 3

PART I.

On the Natural and Inoculated Small-Pox - 5

Sect. I. *Deſcription of the Natural Small-Pox and its Ravages* - - - 7

Sect. II. *Antiquity of Small-Pox Inoculation* - 15

Sect. III. *The formal Eſtabliſhment of Small-Pox Inoculation in England* - - 28

Sect. IV. *Whether Society at large has benefited by the Introduction of Small-Pox Inoculation* - - - 39

Sect. V. *Obſtacles to a General Inoculation of the Small-Pox* - - - 43

PART II.

On the Natural and Inoculated Cow-pock - 63

Sect. VI. *On the Natural Cow-pox and its Freedom from Danger* - - 65

Sect.

PAGE

Sect. VII. *Proofs that thoſe who have had the Natural Cow-Pox are ever after ſecure from taking the Small-Pox, either Naturally or by Inoculation* - - - - - 68

Sect. VIII. *The Antiquity of the Cow-Pox, and the Knowledge that it was a Security againſt the Small-Pox; and of ſome rude Attempts formerly made of acquiring this Diſeaſe* 85

Sect. IX. *The Diſcoveries of Dr. Jenner reſpecting the Cow-Pox* - - - 93

Sect. X. *The Experience of Henry Jenner, Surgeon* 150

Sect. XI. *Dr. Marſhall's Experience* - - 156

Sect. XII. *Dr. Woodville's Experience* - - 164

Sect. XIII. *Dr. Pearſon's Experience* - - 176

Sect. XIV. *The Experience of William Fermor, Eſq.* - - - - 181

Sect. XV. *Mr. Kelſon's Experience* - - 186

Sect. XVI. *My own Experience* - - 189

TO THE

EARL OF LONSDALE,

LORD LIEUTENANT OF THE COUNTIES OF WESTMORELAND AND CUMBERLAND, &c. &c.

MY LORD,

THE ſtrength of a nation is its people; hence the preſervation of life has been eſteemed among the duties of legiſlators. Humanity pleads alſo in favour of a plan to annihilate the deaths and miſeries excited by the *ſmall-pox*; and your Lordſhip's high political ſituation, great philanthropy, joined to a moſt acute and penetrating mind, well verſed in all ſciences, firſt led your Lordſhip to obſerve, and ſanction, the ſcheme of *Vaccine Inoculation*, or *Cow-pock*; which will be, we truſt, proved in this book, chiefly from the experiments conducted at LOWTHER, as capable of effecting

ſo deſirable a purpoſe. And whilſt thus bringing your Lordſhip's name publickly forward, as allowing this Dedication for promoting the eſſential intereſts of humanity, I have alſo the pleaſing view of teſtifying how much I eſteem myſelf honoured in having the privilege of expreſſing my gratitude to your Lordſhip for the many acts of private friendſhip ſhewn me by your Lordſhip; and have the honour to remain,

MY LORD,

With unfeigned reſpect,

Your Lordſhip's moſt obliged,

and devoted ſervant,

ROBERT JOHN THORNTON.

PART I.

ON THE

NATURAL

AND

INOCULATED

SMALL-POX.

Then ſucceed

7. Heat.
8. Thirſt.
9. An inflamed eye.
10. Reſtleſſneſs, or a conſtant inquietude.
11. The pulſe is quick and hard.
12. Convulſions now come on in children, and
13. Violent ſweating in adults.

Such are the ſymptoms which uſher in this dreadful foe to the human race, which now manifeſts itſelf,

14. By many ſpeck-like ſpots, reſembling flea-bites, which appear firſt on the face, and upper parts of the body, and afterwards invade the whole trunk, look angry, create pain, and gradually elevate themſelves above the ſkin, taking on the appearance of pimples.
15. By the fifth or ſixth day, theſe are converted into puſtules, containing a tranſparent fluid, and each has an accompanying inflammation around.

At this period of the diſeaſe,

16. The throat becomes inflamed and is painful.
17. The breath is hot and fœtid.
18. Swallowing is difficult.
19. The voice hoarſe.
20. In adults there comes on a ſalivation, and
21. In infants a diarrhœa.

On the ſeventh day,

22. The eye-lids ſwell, and are glued together, and the patient has both the ſenſation and apprehenſion of the loſs of ſight.

On the eighth day,

23. The aqueous fluid of the puſtules is changed into thick pus.

24. And the effluvia now iſſuing from the patient is highly noiſome and infectious.

25. Or, inſtead of a yellow pus, or matter, only ichor is produced, which erodes deep, and ends in mortification of the parts.

26. Often, purple ſpots appear in the ſpaces ſurrounding the eruption, which forebodes the approaching cataſtrophe.

27. Often, profuſe hæmorrhages of thin corrupt blood paſs off by the ſeveral outlets of the body.

28. The human face divine, bereft of every feature, then exhibits the moſt diſtreſſing ſight, being one maſs of corruption; and, at this time, ſhould ſleep kindly come in to appeaſe his miſeries, it is diſturbed and ſhort, and he frequently wakes with a ſtart, as if rouſed by ſome dreadful apprehenſion; but more generally the ſleepleſs nights are paſſed in tearing off this maſk of humours, which from a dark brown changes to a black, and each morning preſents a horrid ſcene of gore mingled with corruption.

To behold the poor tortured victim muffled, reſiſting, and finally overcoming every artifice to prevent him tearing his fleſh to pieces, is the moſt melancholy ſight which the fond mother can witneſs. Byſtanders no longer recognize the temper or features of the lovely infant. Happy if he eſcape without actual loſs of viſion, and the dimples of the cherub cheek are not furrowed into deep ſeams and unſightly pits. Parents at ſuch a moment would willingly compromiſe every external grace for the poſſeſſion of life. But fate yet hangs ſuſpended on a thread. The ſwelling of the face abates.

29. The limbs in their turn become tumified.

30. The fever, which had remitted ſomewhat of its firſt violence, recurs, from the matter abſorbed, and the poor tortured victim undergoing a ſecond conflict more dreadful than the firſt, with weakened powers of reſiſtance,

31. Moſt commonly from between the 14th to the 17th day (one out of three or four uſually dying of the natural ſmall-pox) finds a releaſe from his miſeries by the Arrow of Death, now eſteemed as a kind Deliverer, inſtead of the Horror of the Human Conception.

32. Or if Nature ſhould come off victorious, how ſcarred! how each bone protrudes through the ſkin! how the limbs totter! how fretful the

the temper! how emaciated the countenance!
how ſunk the eye! how livid the fleſh!

Perhaps even then the Deſtroyer has ſtill accompliſhed his work, and the patient, too early congratulated, ſinks under

1. A lingering conſumption,

2. Or he is eaten away by ſlow corroding ulcers, commonly called the king's evil, or ſcrophula.

Such is the too faithful picture of this loathſome diſeaſe, that baffles in deſcription all the powers of language, and which deſtroys annually in Great Britain alone 50,000 ſouls, or throughout the habitable globe 20,000,000 of people, excluſive of thoſe who periſh from the impoveriſhed ſtate of the ſyſtem, producing thoſe formidable diſorders, which follow in her train.

THE MORTALITY OCCASIONED BY THE SMALL-POX.

Ἥξει δε καὶ πολύπους
Καὶ πολύχειρ, ἃ δεινοῖς
Κρυπτομένα λόχοις
Καλκοπους Ἐριννύς.

Lo! with unnumbered hands, and countleſs feet,
The FURY comes, her deſtined prey to meet;
Deep in the covert hid, *ſhe glides unſeen.*—

SOPHOCLES.

The reader may form ſome tolerable notion of the ravages committed by the ſmall-pox, by examining the bills of mortality, for in London where

where the climate is temperate, the diſeaſe well known, and the treatment of the ſick very ably conducted, from 2000 to 3000, at the preſent day, annually periſh. *Baron Dimſdale.*

So great was the epidemic of the ſmall-pox at Paris in 1723, that upwards of 20,000 periſhed in that city alone! *Voltaire.*

In 1768, this ſame ſcourge deſtroyed at Naples 16,000 perſons in a few weeks. *Abbê Chappe.*

In Ruſſia the annual deſtruction is eſtimated at 2,000,000. *Baron Dimſdale.*

In China, where the population is immenſe, the number who annually die of the ſmall-pox, the moſt loathſome, next to the leproſy, of all diſeaſes, is incalculable. *Dr. Clark.*

The fatality is ſtill more remarkable among new people, who are wholly ignorant of the means of prevention, and the methods of cure.

The ſmall-pox was firſt introduced into New Spain in 1520, by a negro ſlave, who attended Narvarez in his expedition againſt Cortes. Torribio affirms, that one half of the people in the provinces viſited with this diſtemper, died. The ſmall-pox was not brought into Peru for ſeveral years after the invaſion of the Spaniards; but there too that diſtemper proved very fatal to the natives. *Garcia Origen, p.* 88. cited in *Robertſon's Hiſtory of America, vol. iii. p.* 400.

About fifty years after the diſcovery of Peru, the ſmall-pox was carried over from Europe to America, by way of Carthagena, when it overran the continent of the new world, and deſtroyed upwards of 100,000 Indians in the ſingle province of Quito. This account was found by M. La Condamine, in an ancient MS. preſerved in the cathedral of that city. This author alſo obſerves, that in the Portugueſe ſettlements bordering upon the river Amazons, the ſmall-pox was nearly fatal to all the natives, i. e. original Americans. See his *Mem. ſur l'Inoc. p.* 61.

In 1767, never were ſo many people ſeen to die as at Kamtſchatka, when a ſoldier introduced the ſmall-pox for the firſt time; 20,000 periſhing from that diſeaſe, and whole villages were obſerved nearly deſolate. *Cook's Voyage.*

The ſmall-pox was firſt introduced into the frozen region of Greenland in 1733, when the mortality of this diſeaſe was ſo great, that it almoſt depopulated the whole country. See *Crantz's Hiſtory of Greenland, vol. i. p.* 336.

Even ſo late as the year 1793, when the ſmall-pox was conveyed to the Iſle of France, in the Eaſt Indies, by a Dutch ſhip, 5,400 perſons periſhed there by this diſtemper in ſix weeks. *Woodville, vol. i. p.* 28.

THE CONCLUSION.

1. Hence it appears, that had the ſmall-pox ſeized upon a perſon more than once during the period of life, the body being ſuſceptible of more than one attack, as is the caſe with colds, fevers, agues, &c. either the human race would have preſented a frightful ſpectacle of corroded ſcars and mangled deformity, or, what is more probable, would have become extinct, unleſs the inventive genius of man, aſſiſted by God's mercy, had found out a mode to leſſen the fatality and deformity occaſioned by ſo formidable a diſeaſe, either by treatment, or ſome other means.

2. It is likewiſe evident from this ſtatement, that all the wars throughout the whole world (an obſervation worthy the notice of the ſtateſman) have never cut the thread of ſo many lives as this inexorable Devourer of the human race, now happily, as will be ſeen in the following ſections, chained down, it is hoped, never more to turn her deſtructive fury on mankind, and ſtrew the univerſe with dead bodies, mangled victims, and diſconſolate mourners.

SECT. II.

ANTIQUITY OF INOCULATION.

The practice of inoculating, or transferring the ſmall-pox from an infected to a ſound perſon, has prevailed from time immemorial in different and remote countries.

Our nature is ſo formed, that although we are inclined to avoid what is hurtful, yet when the evil is to be undergone, we are impatient to get through with it, in order that the reſt of our lives may not paſs in the fearful apprehenſion of what is to arrive, and we wiſh this period to be when we are in the greateſt force to combat with the diſeaſe, and can ſpare the readieſt the time requiſite for its duration.

This probably ſuggeſted the idea of inoculating from the puſtule, as containing the germ of this diſeaſe; like as ignorant people are ſeen daily to carry their children within the reach of infection, in order, as they plead, "to have it over, and at a good age;" and the practice would become popular by obſerving that inoculation produces a milder ſort of diſeaſe, not one in five hundred dying in this way; whereas of the natural ſmall-pox the mortality was one out of three or four, that is more than thirty

in

in an hundred, a meaſure which therefore multiplies greatly the chances of recovery.

The early practice of inoculation, as we might expect, would be extremely awkward.

In China they take the ſkins of ſome of the dried puſtules which are fallen from the body, and put them into a porcelaine bottle, ſtopping the mouth of it very cloſe with wax. When they intend to transfer this diſeaſe, they mix three or four of theſe ſcabs with a grain of muſk, enfolding it in a tent of cotton, which they put up the noſtrils.

This practice probably aroſe from the idea that the ſmall-pox was taken up by theſe parts. Nor were they miſtaken in their expectation.

The ſmall-pox as certainly followed, but with leſs danger than the caſual; yet ſtill with more diſtreſs than was requiſite.

This was proved, ſays the learned Dr. Mead, by me, when making an experiment with a view to this purpoſe. For when, in the year 1721, by order of his ſacred Majeſty, both for the ſake of his own family, and of his ſubjects, a trial was to be made upon ſeven condemned malefactors, whether or not the ſmall-pox could ſafely be communicated by inoculation; I eaſily obtained leave to make the Chineſe experiment in one of them. There was among thoſe, who were choſen out to undergo the operation, a young girl of eighteen years of age; into whoſe noſtrils I put a tent wetted with matter taken out of ripe puſtules. The event

anſwered;

anſwered; for ſhe, in like manner with the others, who were infected by inciſions made in the ſkin, fell ſick, and recovered; but ſuffered much more than they did, being, immediately after the poiſon was received into the noſe, miſerably tormented with ſharp pains in her head, and a moſt ſevere fever."

Inoculation in one ſpot of the world aroſe from another cauſe.

It is a well-known fact, although it muſt ſtagger the belief of fathers and mothers, that there exiſts a claſs of people in Georgia, who regularly train up their children for ſale and proſtitution. Forming the ſpeculation, if their daughter has a fine form, and fair complexion, the young Circaſſian is firſt inoculated, and if it ſucceeds, ſome expence is afterwards laid out on external accompliſhments, as muſic and dancing; and when the baſhful bloom of youth ſits on the cheek, the fair virgin is carried to the ſhambles of a Turkiſh market, and a price is given, varying according to the fancy of the purchaſer, who confines her eve rafter in the harem of a ſeraglio, never more to behold the face of any other than this her lord and maſter, and his numerous concubines. Should her features be disfigured, all education is omitted, and ſhe continues in the humbler and happier ſphere of ſubaltern life. Such were the ſordid conſiderations which firſt induced the natives of Georgia to inoculate,

and the method could not fail to be told to the Turks, whoſe religion prevented them from adopting the practice from better motives; nevertheleſs it was performed by the Greeks both at Conſtantinople and Smyrna.

We have a lively deſcription of their manner by Lady Mary Wortley Montague. She writes as follows. "The ſmall-pox, which is ſo fatal and ſo general amongſt us, is here entirely harmleſs, by the invention of *ingrafting*, which is the term they give it. There is a ſet of old women who make it their buſineſs to perform the operation every autumn here, in the month of September. When the great heat is abated, people ſend to one another to know if any of their family has a mind to have the ſmall-pox; they make *parties* for this purpoſe, and when they are met, (commonly fifteen or ſixteen together,) the old woman comes with a nut-ſhell full of the matter of the beſt ſort of ſmall-pox, and aſks where they pleaſe to be inoculated. She immediately pierces that part you offer to her with a large needle, (which gives you no more pain than a common ſcratch,) and puts into the part as much matter as can lie upon the head of her needle, and after that binds up the little wound with a hollow bit of ſhell; and in this manner makes four or five inciſions. The Grecians have commonly the ſuperſtition of making a ſcratch in the middle of the forehead, one in each arm, and one in the breaſt,

to

to make the ſign of the croſs; but this has no very ill effect, all thoſe wounds ſeldom leaving ſcars, and is not done by thoſe who are not ſuperſtitious, who chooſe to have them in the leg or that part of the arm that is concealed. The children, or young patients, play together all the reſt of the day, and are in perfect health to the eighth. Then the fever begins to ſeize them, and they keep their beds two days, very ſeldom more. They have very rarely above twenty or thirty in their faces, which never mark, and in eight days after they are as well as before their illneſs. Every year *thouſands* undergo this operation; and the French ambaſſador ſays, pleaſantly, that they take the ſmall-pox here by way of diverſion. *There is ſcarce an example of any one that has died in it; and you may believe I am well ſatisfied with the ſafety of this experiment, ſince I intend to try it on my dear little ſon. I am patriot enough to take pains to bring this uſeful invention into faſhion in England; and I ſhould not fail to write to ſome of our doctors very particularly about it, if I knew any of them that I thought had virtue enough in them to deſtroy ſuch a* CONSIDERABLE BRANCH *of* THEIR REVENUE, *for the* GOOD OF MANKIND.—*Perhaps, if I live to return, I may, however, have courage to wage* WAR *with them.*"

This communication, ſtating the advantages of inoculation upon indubitable authority, as well as ſimilar accounts of the ſucceſs of this new practice,

orally given by merchants and others, who, from buſineſs or pleaſure, had viſited the Ottoman metropolis, could not fail greatly to intereſt many in this country. Indeed, any ſcheme much leſs plauſible than the preſent, which promiſed to diſarm of its terrors ſo univerſal and deſtructive a diſtemper as the ſmall-pox, muſt have had a ſtrong claim to the attention and patronage of any nation. But an Engliſh example was required before the practice could be adopted, and this was fortunately ſoon exhibited.

Mr. MAITLAND, ſurgeon to the Honourable Wortley Montague in his diplomatic character at the Ottoman court, informs us, that the ambaſſador's lady, being convinced of the advantages of inoculation, was determined that her only ſon, then ſix years of age, ſhould undergo the operation. For this purpoſe ſhe deſired Mr. Maitland to procure the variolous matter from a proper ſubject; which being done, an old Greek woman, many years in the conſtant habit of inoculating, was employed to inſert it. "But," ſays Mr. M. "the good woman went to work ſo awkwardly, and by ſhaking of her hand put the child to ſo much torture with her blunt and ruſty needle, that I pitied his cries, and therefore inoculated the other arm with my own lancet, and with ſo little pain to him, that he did not in the leaſt complain of it." The conſequent diſeaſe was very mild, there being

being only about fifty puſtules; and it may be remarked, that this inoculation, which was performed at Pera, near Conſtantinople, in the month of March 1717, (if the mode of buying the ſmall-pox be excepted,) was the firſt ever practiſed upon any *Engliſh ſubject*.

As ſoon as inoculation came to be introduced into England, as a thing wholly *new*, it was found that this practice had exiſted in South Wales, as far back as tradition could be traced, an account of which we have in the Philoſophical Tranſactions for the year 1722.

Mr. Wright writes to Mr. Bevan as follows: "I received yours the 9th inſt. and, in anſwer to it, will readily give you all the ſatisfaction I can in relation to a very ancient cuſtom in this country, commonly called *buying the ſmall-pox*; which, upon ſtrict inquiry ſince I had your letter, I find to be a *common practice*, and of a *very long ſtanding*, being aſſured by perſons of unqueſtionable veracity and of advanced age, that they have had the ſmall-pox communicated to themſelves in this way, when about ſixteen or ſeventeen years of age: they then being very capable of diſtinguiſhing that diſtemper from any other, and that they have parted with the matter contained in the puſtules to others, producing the ſame effects."

"There are two large villages in this county, near the harbour of Milford, more famous for this cuſtom than any other, namely, St. Ishmael's and

MARLOES. The old inhabitants of theſe villages ſay, that it has been a *common practice* with them *time out of mind*; and what was more remarkable, one W. Allen, of St. Iſhmael's, *ninety* years of age, who died about ſix months ago, declared to ſome perſons of good ſenſe and integrity, that this practice was uſed all his time, and that he got the ſmall-pox that way. Theſe, together with many other informations I have met with, from all parts of the country, confirm me in the belief of its being a very *ancient practice* among the common people; and to prove that this method is ſtill continued among us, I will give you the relation of an elderly woman, a midwife, (who accidentally came into company when your letter was reading,) whoſe name is Joan Jones, aged *ſeventy* years, of good credit, and perfect memory. She ſolemnly declares, that about fifty-four years ago, having the ſmall-pox, one Margaret Brown, then about twelve or thirteen years of age, bought the ſmall-pox of her; and ſhe further ſays, that ſhe has known this way of procuring the ſmall-pox practiſed from time to time above *fifty years*; that it had been lately uſed in her neighbourhood; and ſhe knows but of *one* dying of the ſaid diſtemper when communicated after the method aforeſaid, which accident happened within the two laſt years."

The manner of *inoculating*, or *buying the ſmall-pox*, here alluded to, was not always the ſame, but was varied by different perſons. Dr. Williams ſays,

"They

"They either rub the matter, taken from the puſtules when ripe, on ſeveral parts of the ſkin of the arms, &c. or prick thoſe parts with pins, or the like, being firſt infected with the inoculating matter. Mr. Owen, and five of his ſchool-fellows, "ſcraped the ſkin with a knife until the blood began to flow, before they applied the variolous pus." Others produced the diſtemper, "by holding a certain number of dried puſtules for a conſiderable time in the palm of the hand."

We are alſo informed, that the inhabitants of the *Highlands of Scotland*, for *many ages*, have had recourſe to a ſpecies of *inoculation*, performed by tying worſted threads, moiſtened with variolous matter, round the wriſts of their children.

This vulgar or domeſtic cuſtom of inoculating the ſmall-pox, likewiſe prevailed in many other parts of *Europe*, and in various countries of *Aſia* and *Africa*; and, what is highly curious, in ſeveral of theſe diſtant nations, the practice was, as in Wales, termed BUYING THE SMALL-POX. For it was ſuperſtitiouſly imagined, that inoculation would not produce the proper effect unleſs the perſon, from whom the variolous matter was taken, received a piece of money, or ſome other article in exchange for it, from thoſe whom it was intended to infect.

At *Naples*, Monſ. de la Condamine, in 1769, learned that *inoculation* had been ſecretly uſed by the people there from *time immemorial:* and the celebrated P. Boſcowich aſſured him it was practiſed

in the ſame manner at *Pavia*, where the nurſes often inoculated, without the parents' knowledge, the infants intruſted to their care. For this purpoſe they commonly rubbed the palm of the hand of the child with fluid variolous matter, recently taken from a puſtule.

The practice of *buying* or *inoculating* the ſmall-pox prevailed alſo in *ſome of the provinces* of France, eſpecially in *Auvergne* and in *Perigord*; and ſtill more generally among the ignorant peaſantry in many parts of *Germany*, *Denmark*, and *Sweden*.

In the *northern parts of Europe* this practice ſeems to have been leſs complete than that adopted on the ſouthern and eaſtern coaſts of the *Mediterranean Sea*. For in *Barbary* and in the *Levant*, though they placed implicit confidence in the efficacy of *buying* or purchaſing the variolous puſtules; yet their method of performing the operation was ſuch as could not fail of producing the inoculated ſmall-pox. *The infectious matter was inſerted at a ſmall opening made in the fleſhy part of the hand, between the thumb and forefinger*; and, according to Dr. Shaw, "the perſon who is to undergo the operation, receives the infection from ſome friend or neighbour, who has a favourable kind, and who is intreated to *ſell* two or three of his puſtules, for the ſame number of nuts, comfits, or ſuch like trifles."

This account of inoculation differs not materially from that practiſed in the kingdoms of *Tripoli*,

poli, *Tunis*, and *Algier*, as related by his excellency Caſſim Aga, in 1728, when ambaſſador to our court. He ſays, "If any one has a mind to have his children inoculated, he carries them to one that lies ill of the ſmall-pox, at the time when the puſtules are come to full maturity. Then the father makes an inciſion on the back of the hand, between the thumb and forefinger, and puts a little of the matter, ſqueezed out of the largeſt and fulleſt puſtules, into the wound. This done the child's hand is wrapped up in a handkerchief, to keep it from the air, and he is left to his liberty, till the fever ariſing confines him to his bed, which commonly happens at the end of a few days. This practice is ſo innocent, and ſo ſure, that out of 100 perſons inoculated not *two* die; whereas on the contrary, out of 100 perſons that are infected with the natural ſmall-pox, there die commonly about *thirty*. Inoculation is ſo *ancient* in the kingdoms of *Tripoli*, *Tunis*, and *Algier*, that nobody remembers its firſt riſe; and it is not only practiſed by the inhabitants of the towns, but alſo by the *wild* Arabs."

That this practice is very common with the Arabs, and is by them alſo called *buying the ſmall-pox*, fully appears from Dr. Ruſſell's communication to the Royal Society. About the year 1758, while this ingenious phyſician was on a viſit at a Turkiſh harem, a lady happened to expreſs much anxiety for a child who had not had the ſmall-pox; the diſtemper at that time being frequent in the

city.

city. None of the ladies in the company had ever heard of *inoculation*, ſo that the Doctor having once mentioned it, was obliged to enter into a detail of the operation, and the peculiar advantages attending it. Among the female ſervants in the chamber was an old Bedouin *Arab*, who having heard the Doctor with great attention, aſſured the ladies, "that the account given by the Doctor was upon the whole a juſt one; only that he did not ſeem to know well the way of performing the operation, which ſhe aſſerted ſhould not be done with a lancet but with a needle:" ſhe added, "that ſhe herſelf had received the diſeaſe in that manner when a child, and *had inoculated many*; that the whole art was well known to the *Arabs*, and that they termed it *buying the ſmall-pox.*" In conſequence of this hint, Dr. Ruſſel made further inquiries, by which he diſcovered, "that inoculation had been of long ſtanding among them. They indeed did not pretend to aſſign any period to its origin; but perſons ſeventy years old and upwards, remembered to have heard it ſpoken of as a *common cuſtom* of their anceſtors, and they believed it to be of as *ancient a date* as the diſeaſe itſelf."

Dr. Ruſſell was likewiſe aſſured, "that inoculation was equally common among the *eaſtern Arabs*, being practiſed not only at *Bagdad* and *Moſul*, but alſo at *Buſſora*; and that at *Moſul* particularly, when the ſmall-pox firſt appeared in any diſtrict of the city, it was a cuſtom ſometimes to give notice by a public

public cryer, in order that thoſe who were ſo inclined might take the opportunity to have their children *inoculated*."

"In *Armenia*," Dr. Ruſſell ſays, "the Turkoman tribes, as well as the Armenian Chriſtians, have practiſed inoculation *ſince the memory of man*; but, like the Arabs, are able to give no account of its *firſt introduction* among them. At *Damaſcus*, and all along the coaſt of *Syria* and *Paleſtine*, inoculation has been long known. In the *Caſtravan* mountains it is adopted by the Druſi as well as Chriſtians. Whether the Arabs of the deſert to the ſouth of Damaſcus are acquainted with this manner of communicating the ſmall-pox, I have not," ſays this phyſician, "hitherto been able to learn; but a native of *Mecca*, whom I had occaſion to converſe with, aſſured me that he himſelf had been inoculated in that city."

From the various accounts of *inoculation* here related, it is *highly curious* that in ſo many *diſtant nations*, differing widely in manners, cuſtoms, laws, habits, and religion, this art ſhould be generally known by the name of "BUYING THE SMALL-POX." It is alſo to be conſidered as a remarkable proof of its *great antiquity*, that the leſs civilized part of mankind, or people of the moſt ſimple and uniform habits, have poſſeſſed this ſalutary cuſtom the longeſt*.

* For a further account of this intereſting inquiry, vide the elaborate Hiſtory of Inoculation by Dr. Woodville, Phyſician to the Small-pox Hoſpital;—a work replete with curious facts and uſeful inſtructions.

SECT.

SECT. III.

THE FORMAL ESTABLISHMENT OF INOCULATION IN ENGLAND.

INOCULATION of the ſmall-pox was firſt *regularly* adopted in England in the month of April 1721; and it was owing to the enlightened and philoſophic mind of Lady Mary Wortley Montague, that GREAT BRITAIN had the honour of adopting this practice the firſt among the nations of Europe. For after this celebrated lady had witneſſed the good effects of inoculation upon her ſon at Pera, ſhe determined alſo to try it upon her daughter, then an infant of three months old. The particulars of the caſe are ſtated by Mr. Maitland in the following manner:—"This noble lady ſent for me laſt April, and when I came, ſhe told me ſhe was now reſolved to have her daughter inoculated, and deſired me to find out matter for that purpoſe. I pleaded for the delay of a week or two, the weather being then cold and wet; for indeed I was unwilling to venture on an experiment altogether new and uncommon in England, in a cold ſeaſon; though I am now convinced it may with due care be practiſed at all times and ſeaſons, but ſtill with more ſafety in the temperate and favourable. I alſo,

alſo prayed, that any two phyſicians, whom they thought fit, might be called in, not only to conſult about the health and ſafety of the child, but likewiſe to be eye-witneſſes of the practice, and contribute to the credit and reputation of it. In the meantime, having found proper matter, I engrafted it in both arms; the child was neither blooded nor purged before, nor indeed was it neceſſary, conſidering the very cool regular diet ſhe had ever been kept to from her infancy. She continued eaſy and well, without any ſenſible alteration, bating the uſual little ſpots and fluſhings, till the tenth night, when ſhe was obſerved to be a little hot and feveriſh. An old apothecary in the neighbourhood being then called, prudently adviſed not to give the child any medicine, aſſuring them there was no danger, and that the heat would quickly abate, which accordingly it did; and the ſmall-pox began to appear next morning. Three learned phyſicians of the College were admitted, one after another, to viſit the young lady; they are all gentlemen of honour, and will on all occaſions declare, as they have hitherto done, *that they ſaw Miſs Wortley playing about the room, cheerful and well, with the ſmall-pox raiſed upon her; and that in a few days after ſhe perfectly recovered of them.* Several ladies and other perſons of diſtinction viſited alſo this young patient, and can atteſt the truth of this fact."

The very favourable event of this firſt trial of the Byzantine mode of inoculation in Britain,

and

and alſo that of a ſecond, made on the ſon of Dr. Keith, which immediately followed, was ſoon generally known in London, and conſequently communicated to the different parts of the kingdom. *For an art ſo new and intereſting to the public, could not fail to excite the attention of people of all ranks, and more eſpecially thoſe of the medical profeſſion, on whoſe concurrent opinions the eſtabliſhment of this foreign practice here was ultimately to depend.*

However, though theſe proſperous inſtances of inoculation had hitherto confirmed the reports of its ſucceſs at Conſtantinople; and though the practice had been introduced among the Engliſh by a woman who, from her brilliant accompliſhments, maſculine underſtanding, and great influence in the faſhionable circles, was, above all others, moſt likely to be followed as an example in the metropolis; yet this valuable art was ſtill regarded with a ſuſpicious caution, and ſeveral months elapſed before a *third trial* of it was made in London.

Even *four months* after the inoculation of Miſs Wortley, this practice was ſtill viewed in ſuch a dubious light, that it was determined that ſeveral culprits, then in Newgate, who had forfeited their lives to the laws of their country, ſhould, on ſubmitting to be inoculated, receive full pardon by the royal perogative: a propoſition which is ſaid by ſome to have been ſuggeſted by the College of Phyſicians to their Royal Highneſſes the Prince and Princeſs of Wales; but Sir Hans Sloane ſtates it

to

to have wholly originated with the *Princeſs of Wales.* Mr. Maitland was accordingly requeſted to perform the operation, which he declined; but leſt the opportunity ſhould be loſt, Sir Hans wrote to Dr. TERRY, at Enfield, who had practiſed phyſic in Turkey, to know his opinion concerning inoculation. The Doctor replied, that he had ſeen the practice there among the Greeks encouraged by the patriarchs, and that not *one* in *eight hundred* had died in conſequence of the operation. Upon which inoculation was performed upon the following ſix criminals at Newgate, on the ninth day of Auguſt 1721, in the preſence of ſeveral eminent phyſicians and ſurgeons.

Mary NORTH - - - - - - -	36 years old
Ann TOMPION - - - - - -	25
Elizabeth HARRISON - - - -	19
John CAWTHERY - - - - -	25
John ALCOCK - - - - - - -	20
Richard EVANS - - - - - -	19

All theſe ſix, who were inoculated by making inciſions in both arms, and on the right leg, obtained a remiſſion of the ſentence of the law on very eaſy terms; for in ALCOCK, on whom the operation produced the greateſt crop of puſtules, the number did not exceed *ſixty*; and EVANS, having had the ſmall-pox the preceding year, of courſe did not receive the diſeaſe a ſecond time.

Theſe

Theſe experiments, no doubt, tended much to the encouragement of inoculation, which in ſo many inſtances had now fully anſwered the utmoſt expectations of its patrons. The trials of it, however, were yet conſidered by the faculty as ſtill *too few* to aſcertain the general ſafety and advantage of the practice.

Early in the ſpring of the year 1722, inoculation began to be adopted in various parts of England; and by order of her Royal Highneſs the *Princeſs of Wales*, it was practiſed firſt upon *ſix*, and afterwards upon *five*, *charity children*, belonging to the pariſh of Saint James's. The ſucceſs with which theſe trials were attended, induced her Royal Highneſs to cauſe Princeſs AMELIA and Princeſs CAROLINA to be inoculated on the 19th of April 1722; the former being then *eleven* and the latter *nine* years of age. They were inoculated by Serjeant Surgeon Amyand, under the direction of Sir Hans Sloane: but before her Royal Highneſs determined upon the inoculation of the *Princeſſes*, ſhe conſulted Sir Hans reſpecting the propriety and ſafety of the meaſure. He "told her Royal Highneſs, that by what appeared in the ſeveral eſſays, it ſeemed to be a method to ſecure people from the great dangers attending the ſmall-pox in the *natural way*. That the preparations by diet, and neceſſary precautions taken, made that practice very deſirable; but that not being certain of the *conſequences* which might happen, he would not perſuade

nor

nor adviſe the making trials upon patients of ſuch importance to the public." The princeſs then aſked him "if he would *diſſuade her from it:*" to which he anſwered, "he would not in a matter *ſo likely to be of ſuch advantage.*" Her reply was, "that ſhe was *then reſolved it ſhould be done*;" and ordered Sir Hans to go to the King (George the Firſt) who had commanded the Doctor to wait on him upon the occaſion; and it being agreed upon between his Majeſty and Sir Hans, the two Princeſſes were inoculated.

Both theſe younger branches of the Royal Family paſſed through the ſmall-pox in a *very favourable manner:* and inoculation, in conſequence of this illuſtrious example, was now making a rapid progreſs, when the number of perſons inoculated in England amounted to 182, *viz.*

By Dr. Nettleton - - - - - - -	61
Mr. Maitland, Surgeon - - - - -	57
Claud Amyand, Eſq. Serjeant Surgeon -	17
Dr. Dover - - - - - - - - - -	4
Mr. Weymiſh, Surgeon - - - - -	3
The Rev. Mr. Johnſon - - - - - -	3
In or near London - -	145

Brought over—in or near London	145
Mr. Smith, Surgeon, and Mr. Dymer, Apothecary at Chicheſter - - -	13
Dr. Brady, at Portſmouth - - - - -	4
Mr. Waller, Apothecary at Goſport -	3
A Woman at Leiceſter - - - - - -	8
Dr. Williams, at Haverfordweſt - -	6
Two other perſons near the ſame place	2
Dr. French, at Briſtol - - - - - -	1
In all - - -	182

Out of this number (ſays Dr. Jurin) the oppoſers of inoculation affirm, that *two* perſons *died* of the inoculated ſmall-pox; the favourers of this practice maintain, that their death was occaſioned by *other cauſes*.

If, to avoid diſpute, theſe two be allowed to have died of inoculation, we muſt eſtimate the hazard of dying of the inoculated ſmall-pox, as far as can be collected from our own experience at preſent, to be that of *two* out of 182, or *one* out of 91; ſince which time, by a proper preparation by medicine, the favourable chances have been yet more increaſed.

In the natural way the chances are as *one* to 6, which is a wonderful odds in favour of inoculation.

Although

Although the advantages of inoculation were great, in the *firſt place*, as it gave every proſpect of recovery in this otherwiſe often fatal diſeaſe, and *ſecondly*, ſecurity in future, which removed the terror of apprehenſion, which, like a ſword hung over the head, and was ſure often to preſent itſelf to the ſcared imagination, yet was its firſt introduction, from the oppoſition it experienced, extremely ſlow.

During the year 1723, the practice, however, of inoculation made a conſiderable progreſs in England. It was adopted not only among the nobility of the firſt rank, but (which ſtill more tended to its promotion) it received encouragement from the heads of the church, having been introduced into the family of the Biſhop of Wincheſter, and alſo into that of that learned divine Dr. Calamy. Whence the number of the inoculated *that year*, far exceeded the numbers in the two preceding years taken together. It amounted to 292, which being added to 182, makes the whole number of the inoculations in the years 1721, 1722, and 1723, to be 474, out of which number, as will be ſhewn in the next page, although the treatment was bad, the hot regimen being then in faſhion, only *nine* died.

The Result of these Cases are represented in the annexed Table, taken from Dr. Jurin.

AGES.	Persons inoculated.	Had the Small-pox by inoculation.	Had an imperfect sort.	Had no effect.	Supposed to have died of inoculation.
Under One Year - -	11	11	0	0	0
One to Two - - - -	15	14	0	1	2
Two to Three - - - -	31	31	0	0	1
Three to Four - - - -	41	38	0	3	1
Four to Five - - - - -	33	31	0	2	1
Five to Ten - - - - -	140	137	1	2	2
Ten to Fifteen - - - -	82	76	0	6	0
Fifteen to Twenty - -	56	50	1	5	2
Twenty to Fifty-two	62	50	3	9	0
Age unknown - - - -	3	2	0	1	0
Total - - -	474	440	5	29	9

Hence we find, that of the 474 persons first inoculated in England, *nine* died, and their deaths were not unjustly suspected to have happened in consequence of inoculation.

Thus inoculation triumphed, under the auspices of *royal patronage*; and Dr. Wagstaffe, after his invidious remark, "*that posterity will scarcely be brought*

brought to believe, that an experiment, practiſed only by a few ignorant women, ſhould ſo far obtain in one of the politeſt nations in the world, as to be received into the Royal palace," had the mortification to find it introduced a "*ſecond time*" into the Royal family. For their Royal Highneſſes Prince FREDERICK and Prince WILLIAM were both inoculated *this year*. The former, who reſided at Hanover, and was then eighteen years of age, ſubmitted to be inoculated by Mr. Maitland on the firſt of May 1724, and the event was extremely favourable; his Royal Highneſs not having more than from eleven to eighteen puſtules. The latter, was about the ſame time inoculated here by Surgeon Amyand, under the direction of Sir Hans Sloane, who likewiſe paſſed through the ſmall-pox without any alarming or even troubleſome ſymptom.

But what tended ſtill more effectually to eſtabliſh the practice of inoculation, was the ſubſequent declaration of the College of Phyſicians, *viz.*

"THE COLLEGE HAVING BEEN INFORMED, THAT FALSE REPORTS CONCERNING THE SUCCESS OF INOCULATION IN ENGLAND, HAVE BEEN PUBLISHED IN FOREIGN COUNTRIES, THINK PROPER TO DECLARE THEIR SENTIMENTS IN THE FOLLOWING MANNER; *viz.* THE ARGUMENTS WHICH AT THE COMMENCEMENT OF THIS PRACTICE WERE URGED AGAINST IT, HAD BEEN REFUTED BY EXPERIENCE; THAT IT IS NOW HELD BY THE ENGLISH IN GREATER ESTEEM, AND PRACTISED AMONG THEM MORE

EXTENSIVELY THAN EVER IT WAS BEFORE; AND THAT THE COLLEGE THINKS IT TO BE HIGHLY SALUTARY TO THE HUMAN RACE."

The words of this famous declaration are, "Quoniam collegio nuntiatum fuit, falſos de variolarum inſitiarum in Anglia ſucceſſu et exiſtimatione apud exteras gentes nuper exiiſſe rumores, eidem collegio ſententiam ſuam de rebus hiſce ad hunc modum declarare placuit: videlicet, argumenta, quæ contra hanc variolas inferendi conſuetudinem in principio afferebantur, experientiam refelliſſe; eamque hoc tempore majori in honore apud Anglos haberi, magiſque quam unquam antea inter eos nunc invaleſcere; atque humano generi valde ſalutarem eſſe exiſtimare. *Vide Taylor Orat. Harv. page* 29.

We may reckon upon inoculation as from this time eſtabliſhed in England, although it be not univerſally practiſed *.

* Vide Dr. Woodville's Hiſtory of Inoculation.

SECT. IV.

WHETHER SOCIETY AT LARGE HAS BENEFITED BY THE INTRODUCTION OF INOCULATION?

SOME may ſmile at my quoting the authority of Dr. Buchan, author of the "Domeſtic Medicine," a work ſaid to have produced much domeſtic miſchief *; but I know of no writer, who has more ſenſibly treated on the duties of mankind, and whoſe advice relative to the preſervation of health †, deſerves a more general attention.

"As the ſmall-pox," ſays this benevolent writer, "has now become an epidemical diſeaſe in moſt parts of the known world, no other choice remains but to render the malady as mild as poſſible. This is the only manner of extirpation now left in our power; and, though it may ſeem paradoxical, the artificial method of communicating the diſeaſe, *could it be rendered univerſal*, would amount to nearly the ſame thing as rooting it out. It is a matter of ſmall conſequence, whether a diſeaſe be entirely extirpated, or rendered ſo mild as neither to deſtroy life nor hurt the conſtitution; but that this may be done by inoculation, does not now ad-

* Dr. Beddoes thus humouroufly ſpeaks of it.

† The introduction "On the common Cauſes of Diſeaſe," by this popular writer, is a chef d'œuvre.

mit of a doubt. The numbers who die under inoculation hardly deſerve to be named. In the natural way, one in four or five generally dies; but by inoculation not one of five hundred. Nay, ſome can boaſt of having inoculated thouſands without the loſs of a ſingle patient."

"To this advantage we might add, that ſuch as have not had the ſmall-pox in the early period of life, are not only rendered unhappy, but likewiſe, in a great meaſure, unfit for ſuſtaining many of the moſt uſeful and important offices."

"Few people would chuſe even to hire a ſervant who had not had the ſmall-pox."

"How could a phyſician or a ſurgeon, who had never had the ſmall-pox himſelf, attend others under that malady?"

"How deplorable is the ſituation of females, who arrive at mature age without having had the ſmall-pox! A woman with child ſeldom ſurvives this diſeaſe: and if an infant happens to be ſeized with the ſmall-pox upon the mother's breaſt, who has not had the diſeaſe herſelf, the ſcene muſt be truly diſtreſſing!"

"If ſhe continues to ſuckle the child, it is at the peril of her own life; and if ſhe weans it, in all probability it will periſh!"

"How often is the affectionate mother forced to leave her houſe, and abandon her children, at the very time when her care is moſt neceſſary? Yet ſhould parental affection get the better of her

fears,

fears, the conſequences would often prove fatal. I have known the tender mother and her ſucking infant laid in the ſame grave, both untimely victims to this dreadful malady. But theſe are ſcenes too ſhocking to dwell on."

"Let parents who run away from their children to avoid the ſmall-pox, or who refuſe to inoculate them in infancy, conſider to what deplorable ſituations they may be reduced by this miſtaken tenderneſs."

"I have often wiſhed," adds Dr. Buchan, "to ſee ſome plan eſtabliſhed for rendering this ſalutary practice *univerſal*; but am afraid I ſhall never be ſo happy. The difficulties indeed are many; yet the thing is by no means impracticable. The aim is great; no leſs than ſaving the lives of *one-fourth part of mankind*. What ought not to be attempted in order to accompliſh ſo deſirable an end?"

His plan is,

1ſt. "Removing of prejudices by the clergy.

2dly. The Faculty inoculating, and attending gratis, or if theſe refuſe, then the clergy to do it.

3dly. Douceurs to be given to mothers by government for having their children inoculated.

4thly. And ſhould both the faculty and clergy ſhrink from the unprofitable taſk, [as the Doctor forſees would probably be the caſe,] for parents *themſelves* to perform the operation on their children."

"We have been more full," adds this benevolent writer

writer upon this ſubject, "becauſe the benefit of inoculation cannot be extended to ſociety by any other means than by making the practice *general*. While it is confined to a *few*, it muſt prove hurtful to the *whole*. By means of it *the contagion* is ſpread, and is communicated to many who might otherwiſe have never had the diſeaſe. Accordingly it is found *that more die of the ſmall-pox now than before inoculation was introduced*; and this important diſcovery, by which alone more lives might be ſaved than by all the other endeavours of the Faculty, is in a great meaſure loſt by its benefits not being extended to the whole community."

The great and learned Dr. Heberden, in his obſervations on the increaſe and decreaſe of different diſeaſes, obſerves, "that he examined carefully the bills of mortality, and comparing the deſtruction occaſioned by the *ſmall-pox* among our countrymen *before* and *ſince* inoculation, reluctantly was brought to this melancholy concluſion, that at the preſent period the *proportional increaſe* of deaths from this diſeaſe was as *five* to *four*."

SECT.

SECT. V.

OBSTACLES TO A GENERAL INOCULATION.

THE obſtacles to a general inoculation are ſuch, as in all probability to prevent a plan of this kind from ever being carried into execution.

1ſt. *The prejudices of the lower orders of mankind.*

The cold calculator might eſtimate the advantages of inoculation to ſociety, and calculate the *comparative number* of *deaths* from the natural ſmall-pox, and artificial diſeaſe; but yet as he muſt allow that *ſome* die under inoculation, the fond mother naturally would thus argue within herſelf: "Can I bring my mind to conſent to what may bereave me of my dear child?—if he were to die, how ſhall I forgive myſelf?—am I ſure, that I am not anticipating an evil that may never arrive?—where is my right to do this?—is he certain to catch the ſmall-pox?—and were this to happen, and he were, alas! to be taken from me at a later period, I ſhall then, relying on Providence, have nothing to reproach myſelf with."

In vain will the philoſopher oppoſe to theſe natural ſuggeſtions of the weak mind,

1. That were the child to die under inoculation, the mother has truly nothing to upbraid herſelf with, having only done her duty.
2. And had not the ALMIGHTY deſigned inoculation to be performed, it would not be endowed with the extraordinary virtue it poſſeſſes of preventing the ſmall-pox, and have a nature infinitely milder than the other.

The more ignorant the perſon, the more ſtubborn againſt the conviction of reaſon, and, as Hudibras ſays,

> " She who's perſuaded againſt her will,
> " Is of the ſame opinion ſtill."

So here, no force of argument, could bring over the unwilling, and words are only loſt in the attempt, and a large claſs of mankind will be *always* found adverſe to inoculation, the poſſibility of death ariſing to the perſon inoculated, being the ſtumbling-block againſt its univerſal acception.

2dly. *The chances that infants at the breaſt have of dying; early age being found moſt unfavourable to the inſertion of the ſmall-pox.*

A fact which ſoon drew the attention of many eminent medical writers, who endeavoured to account for this circumſtance. Thus Dr. Percival.

" 1. The number of diſeaſes to which infants are liable, render them unfit ſubjects for inoculation. HIPPOCRATES, two thouſand years ago, remarked,

ætatibus

ætatibus, morboſiſſimi ſunt juniores. And when we conſider the great and ſudden changes, both external and internal, which they undergo at birth; the laxity and wonderful delicacy of their frame, and their extreme irritability perhaps depending upon it; the copiouſneſs of glandular ſecretions, with the difficulty of preſerving that equilibrium, the leaſt deviation from which affects them; it is matter of real aſtoniſhment that life itſelf can be ſupported, under a ſeries of ſuch apparently unfavourable circumſtances. Scarcely hath the little ſtranger been uſhered into the world, but he diſcovers ſigns of indiſpoſition, by his reſtleſſneſs, anxiety, crying, and vomiting; by the ſwelling of his belly; and ſometimes by convulſions. Theſe ſymptoms ariſe from the load of *meconium* with which the ſtomach and bowels are oppreſſed, and generally ceaſe when thoſe organs have been gently evacuated The jaundice next ſucceeds, and is ſometimes complicated with a very acrimonious ſtate of the fluids, as appears by the eruption of little red puſtules, with which the ſkin is everywhere loaded. The thruſh, watery gripes, and convulſions, obſerve no regular order of time, but attack moſt infants, either ſingly or collectively, according as they are more or leſs obnoxious to the cauſes which produce them. The quick growth of children, in the firſt period after birth, is likewiſe a ſource of numerous ailments; notwithſtanding the proviſions which nature hath made, to guard againſt the inconveniences reſulting

from it, by the laxity of the glandular ſyſtem. And as moſt of theſe cauſes continue to exert their influence after birth, though in a leſs degree, the increment of the young animal proceeds apace, and redundances are formed, which in a healthy ſtate are carried off by one or other of the glandular excretions. But a deficiency or exceſs in any of theſe, neceſſarily produces diſeaſes. And in ſuch feeble, delicate, and irritable ſubjects, the equilibrium cannot long be preſerved. If they are defective, all the complaints which ariſe from plenitude enſue; the child grows feveriſh, dull, and comatoſe; his ſtomach is diſordered; his bowels are oppreſſed with wind; and if his belly be conſtipated, he falls into convulſions. On the other hand, if they are exceſſive, a *diarrhœa* is produced; *aphthæ* and ſevere gripes ſucceed; and the violent irritation ſeldom fails to occaſion epileptic fits. From this ſhort view of the firſt period of infancy, I think it muſt appear evident, that inoculation is ill adapted to that tender ſeaſon of life. Nature, feeble and irritable as ſhe then is, can ſcarcely ſtruggle with the diſeaſes to which ſhe is ordinarily expoſed. It is therefore equally cruel and unjuſt to add to the number with which ſhe is already oppreſſed. For it is demonſtrable from the bills of mortality, that two thirds of all who are born, live not to be two years old; and I think it is more than probable, that a conſiderable proportion of theſe die under the age of ſix weeks."

"II. The fears and anxiety of the mother, excited at a time when her ſtrength hath been exhauſted by the pains of labour, and when every uneaſy impreſſion ſhould be cautiouſly avoided, cannot fail to injure her milk. And this is a powerful objection to the early inoculation of infants. If a hired nurſe be employed, her milk may diſagree with the child, ſhe may fall into ſome diſeaſe during the time of inoculation, may be guilty of exceſs in eating or drinking, or may be under the influence of violent paſſions; each of which will aggravate the ſymptoms, and increaſe the danger of the artificial diſtemper under which the infant labours."

"III. It hath been obſerved, by a very able and experienced practitioner, that young children have uſually a larger ſhare of puſtules from inoculation, than thoſe who are a little farther advanced in life; and that, from this circumſtance, ſo many have died, as to diſcourage the practice of ingrafting the ſmall-pox on ſuch delicate ſubjects. This fact is not eaſy to be explained. Whether the greater irritability of infants ſubjects them to be more affected with the variolous *miaſma* than children of two or three years old; or whether the larger eruption, to which they are liable, be owing to the proportionably greater quantity of their fluids; I will not preſume to determine. Both cauſes may poſſibly conſpire to produce this effect; the former by exciting a quicker and increaſed contraction of the heart and vaſcular ſyſtem; the latter by affording a more

copious

copious *pabulum* for the variolous ferment. By the ſame principles we may perhaps account for the greater virulence of the lues venerea in infancy, than in the more advanced ſtages of life."

"IV. A conſiderable number of thoſe who die of the natural diſeaſe, before the expulſion of the variolous eruption, are infants, or very young children. This does not ariſe, as Dr. KIRKPATRICK ſuppoſes, from the extreme weakneſs of the *vis vitæ* of infants; for the contraction of their hearts is proportionably ſtronger than in adults, as the quickneſs of their growth evinces; but from the high degree of irritability with which their nervous ſyſtem is endued. Hence the convulſive paroxyſms, which often precede the appearance of the puſtules, and which, though regarded by SYDENHAM as no unfavourable ſigns, are always alarming, and, when they happen to very young infants, are frequently fatal."

"V. If the number of puſtules be ſo great in the mouth or throat as to obſtruct ſuction, the diſeaſe, in all probability, will prove fatal. Even a few pocks in thoſe parts are highly troubleſome and dangerous to infants; for beſides the pain and reſtleſſneſs which they produce, they often terminate in ill-conditioned ulcers. Under ſuch circumſtances the mute wailings, or ſhrieks, of an infant occaſion equal embarraſſment and diſtreſs."

"VI. Thoſe who are affected with cutaneous diſeaſes have been generally regarded as unfavourable

ſubjects

ſubjects of inoculation. Infancy, therefore, which is ſeldom unattended with erruptions on the ſkin, muſt be an improper period for receiving the ſmall-pox by ingraftment."

"VII. The thickneſs of the teguments of infants, which ariſes from the quantity of fluids interpoſed between their fibres, by which the ſkin is rendered ſoft and œdematous to the touch, and their perſpiring leſs than children who are capable of uſing exerciſe, are further objections to very early inoculation."

"VIII. But the moſt forcible argument againſt this practice, is deduced from the ill-ſucceſs which hath attended infant inoculation in general. For it appears by Dr. JURIN's account of the progreſs of inoculation in Great Britain from 1721 to 1726, and by Dr. SCHEUCHZER's continuation of it to 1728, that of fifty-eight children under two years old, who received the ſmall-pox by ingraftment, *ſix* died; whereas of two hundred and twenty-one, inoculated between the ages of two and five, only *three* died."

"It is too common an opinion," ſays that able writer, Dr. Underwood, in his treatiſe on the Diſeaſes of Children, "that a very young infant, ſucking at the breaſt, is the fitteſt ſubject for inoculation; and medical people have ſome difficulty in perſuading parents to the contrary. Children are then ſaid to be clear from humours, their blood mild and balſamic, their food innocent, and they are free

from all violent paſſions of the mind. But all theſe advantages may be counterbalanced by the delicacy of their frame, their diſpoſition to ſpaſm, and their inability to ſtruggle with a ſevere attack of the diſeaſe, if it ſhould chance to fall to their ſhare. And ſuch, indeed, are the facts: infants may have the ſmall-pox very lightly, whether taken naturally or from inoculation, though in both there are a few inſtances of their expiring in a fit at the time of the eruption; but they ſeldom get through the diſeaſe, if they are full, or it proves of the confluent or malignant kind. And this furniſhes a peculiar objection to inoculating infants at the breaſt, which ariſes from their neceſſarily lying ſo much on the arm of the mother or the wet-nurſe, eſpecially in the night; the heat expoſing them to a much more copious eruption than children who are weaned. This I have ſeen clearly exemplified in the inſtance of a child whoſe mother could ſuckle only with the right breaſt; the conſequence was, that the left ſide of the child was perfectly loaded with the eruption, (though the pock was of the diſtinct kind) whilſt the other had only a moderate ſprinkling. The child, however, ſunk under the ſecondary fever at the end of five or ſix weeks, though turned of two years old; the *only* child I have known to die of inoculation at ſo advanced an age. A ſimilar inſtance is related by Mr. Moſs; who not being able to prevail on a young woman whom he had inoculated, to keep her feet (which were very cold)

out

out of the warm aſhes of a hearth-fire, at the time of the eruption, they were, in conſequence, ſo loaded with it, as to appear one continued bliſter; though the diſeaſe was very diſtinct, and went on very favourably in other parts."

"I am aware that many children are inoculated very young, and even in the month, and generally with very good ſucceſs; but the frequency of this practice, among eminent ſurgeons, is owing to the urgent ſolicitation of parents, and their fear of contagion. I cannot therefore avoid ſaying, that however few may die under inoculation, under any circumſtances, the fact is, that the far greater proportion that I happen to have had an account of, is amongſt infants under ſix months old. A remarkable proof of this diſproportion appeared lately under a general inoculation at *Luton*, during the progreſs of a malignant ſmall-pox, which carried off one half of thoſe who were attacked by it in the natural way. In the midſt of this fatality, twelve hundred and fifteen paupers were inoculated, through the humanity of the Hon. and Rev. Mr. WILLIAM STUART, many of whom refuſed all preparatory medicines, and were beſides addicted to the uſe of ſtrong liquors: nevertheleſs, out of the *twelve hundredand fifteen* only *five* died—*all of whom were infants under four months old.* Seven hundred adult people of better condition, in the ſame neighbourhood, were inoculated a ſhort time afterwards, and with the like good ſucceſs with the former."

"From this view of the matter, it is pretty evident, I think, that this operation ought, in general, to be poſtponed to a later period, which is pointed out by the child having cut all its firſt teeth."

Dr. Macdonald juſtly remarks, "that the deaths of infants often happen under circumſtances the more diſtreſſing."

Before me lie the records of two unfortunate families. In the one, a father and four of his children were inoculated for the ſmall-pox; the eruptions proved of the confluent kind: *two children* out of the four died.—The other is a young widow, who loſt her huſband at the early age of 24. *One infant* at the breaſt was left her, which, in her pitiful ſituation, conſtituted her only conſolation. Soon after, the ſmall-pox began to rage in the city where ſhe lived; ſhe therefore was adviſed by her friends to inoculate her little boy. With reluctance, as if preſaging her impending misfortune, ſhe conſented.—Her fears, alas! were but too well grounded: on the day preceding the eruption, the child was ſeized with convulſive fits, and expired on the tenth day.

"One ſmiling boy, her laſt ſweet hope ſhe warms,
Huſh'd in her boſom, circled in her arms;
Daughter of Woe!—ere morn in vain careſs'd,
Clung the cold babe upon thy milkleſs breaſt,——
With feeble cries thy laſt ſad aid requir'd,
Stretch'd its ſtiff limbs, and on thy lap expir'd."

DARWIN.

3d. *Dentition is found to be a period in which inoculation was hazardous.*

The ſmall-pox is uſually iſſued in by convulſions in children at every age. The period of dentition being very liable to ſuch convulſive attacks, which often prove fatal, would naturally put the practitioner on his guard againſt bringing on, or adding to, an event equally terrific, as it is often fatal.

"It cannot be denied," ſays my learned and eloquent friend Dr. Macdonald, "but the inoculation of the ſmall-pox has proved to mankind a ready means to alleviate and eſcape the danger of a moſt diſtreſſing diſorder; ſtill, notwithſtanding theſe happy effects, the inoculated ſmall-pox is *often* accompanied with ſymptoms which give juſt cauſe of alarm, and *ſometimes* prove fatal under the moſt judicious management."

"Were I to record all the diſtreſſing ſcenes which frequently attend the inoculated ſmall-pox, or relate the ſad hiſtories of thoſe unfortunate families, who, in conſequence of inoculation, have felt the ragings of this dire diſorder; the ſtouteſt heart would ſhrink with horror, and drop a tear of pity over the ſufferings of humanity."

"I would wiſh to relinquiſh this ſubject, for my pen can give but a faint ſketch of thoſe pictures of ſingular diſtreſs, which every phyſician of even moderate experience has witneſſed."

"Paint to yourſelf one of theſe little innocent

ſufferers, ſtretched out, and covered with one continued ſore; threatened with ſuffocation, uttering the agonies he feels, by piercingly heart-wounding groans.—Obſerve how his mouth foams; liſten to the grinding of his teeth; ſee how he thruſts his little trembling tongue betwixt them, and how piteouſly it is wounded!—Look! how he is agitated with the moſt dreadful convulſions! his feeble limbs are twiſted and contorted, and threaten diſlocation; his frame bends backwards, is lifted up and thrown down again!—Theſe fits now increaſe,—then ceaſe;—alas! only to return with redoubled violence.—Miſery calls aloud for help, help;—but calls in vain.—New convulſions ſucceed; - he foams,—ſtruggles, gaſps,—gaſps again,—and expires!"

"If at ſcenes like theſe your heart would bleed, what muſt be the feelings of a fond parent, when this deſtroying ſcourge nips in the bud the faireſt bloſſom of his hope?"

4th. *Old age.*

Although this period cannot be alledged as equally unfavourable as either of the foregoing, it is one a practitioner would not prefer; and it ſeems cruel to ſubject a perſon on the verge of the grave to the chance of a diſeaſe that poſſibly may prove extremely ſevere.

5th. *Pregnancy was a ſituation in which inoculation generally produced abortion, and the death of the individual.*

Caſes of this ſort are to be found in every author. In Mead we have the following affecting narrative:

"A lady of quality at the ſeventh month of her pregnancy was ſeized with the natural ſmall-pox, which proved of an unfavourable ſort. On the eleventh day ſhe was brought-to-bed, and ſafely delivered of a male child: on the fourteenth ſhe died. On the fourth day following, the infant was ſeized with convulſions, the forerunner of the eruption, which appeared on that ſame day, and he died in the evening."

The inoculated diſeaſe was found alſo equally dangerous.

"A phyſician at Wincheſter informs me," ſays Dr. Kirkpatrick in his Analyſis of Inoculation, "that in the ſeveral towns of Hampſhire, Suſſex, and Surrey, there have been inoculated 2000, of whom *two* only died, both pregnant women, who admitted this operation contrary to the opinion of their phyſician."

6th. *That it precludes the poor perſon inoculated following his uſual avocation.*

The majority of mankind are deſtined to procure their daily ſubſiſtence by the ſweat of their brow. The earnings of induſtry too frequently are found inadequate to the ſupport of a family, ſo that any thing can be laid up for a rainy day; hence the total inability of the poor to ſuſtain the heavy calamity of a whole family ſuffering under the inoculated ſmall-pox. The mother can ill af-

ford even the attentions required for a ſick family, and the honeſt peaſant is unable to loſe the time requiſite under this diſeaſe, even ſhould the inoculation, and medicines required, be given gratis.

7th. *The many individuals that, from humours and other cauſes, are conſidered unfit ſubjects for inoculation.*

I ſhould tire the reader were I to quote, from Sutton on Inoculation, three long pages deſcriptive of perſons eſteemed unfit to receive inoculation: even very fat children, although otherwiſe healthy, are included among that claſs.

It muſt be acknowledged that the *moſt dreadful diſeaſes* in certain habits, often difficult to diſtinguiſh, are *called forth* by *inoculation*; hence the vulgar prejudice of other diſeaſes, eſpecially the king's-evil, being actually ingrafted with the ſmall-pox.

The learned Dr. Mead took the pains firſt to counteract this vulgar error.

"Some," ſays he, "would attempt to diſſuade us from inoculation, by affirming that there is danger leſt, together with the ſmall-pox, ſome other infectious diſeaſe, inherent in the blood and humours of the ſick perſon, ſhould be tranſmitted into the ſound body: all contagion being very ſubtile, and wonderfully active. And it is indeed not improbable, that ſome other diſtempers, beſides thoſe which are cutaneous, may, by ſuch a way as this, get admittance into the ſkin: and ſuch perhaps are ſcrophulous ſwellings, and the venereal

nereal diſeaſe. Yet I can hardly believe that it ever happens, that the ſeed of one diſtemper ſhould bring along with it, mixed, the procreative matter of another, of a nature quite different from it. However it be, it would be madneſs in a phyſician, without any choice, to take the morbid matter for this purpoſe out of ſick bodies, without diſtinction. The moſt proper ſubjects are infants or children, ſound in all other reſpects, as far as can be judged, and born of healthy parents. Beſides, it is in my opinion more material, into what kind of a body the venom be infuſed, than out of what it be taken. And this I the rather mention, becauſe I have more than once known raſh and unwary ſurgeons to implant the diſeaſe into bodies weak, and of an ill habit, with a fatal event."

" I cannot however," he adds, " but think, that boils, and ſwellings under the ears and in the arm-pits, ariſe *more frequently* after the diſtemper procured by art, than after that which comes of its own accord; for this reaſon, as I ſuppoſe, that the venomous matter is puſhed forward with leſs force, which diſadvantage nature makes amends for this way. Therefore, all poſſible means are to be uſed to ripen ſuch tumours, of whatever kind they are: if this cannot be done, they muſt be opened by inciſion; and when all the matter is drawn out, the body muſt be purged by proper medicines, which

are

are to be *oftener repeated* in this than in the natural diſeaſe."

Thus aroſe the practice of preparing before and phyſicking after inoculation, of making iſſues in both arms, inſerting a deep pledget with the ſmall-pox matter on it, or ſetons, to make a great outlet for the eſcape of the peccant humour: but all this is now laid aſide, as being unavailing; for the body being once completely poiſoned, the blood corrupted, and the ſolids enfeebled, nothing of this kind avails; and hence many phyſicians have juſtly ſuſpected the propriety of purges after the ſmall-pox, and even abandoned the practice as pernicious.

8th. *But above all, and laſtly, although an individual advantage may be obtained, yet, as extending the diſeaſe by infection far and wide, it became on that account a public nuiſance.*

This circumſtance ſoon ſtruck the diſcerning mind of Baron Dimſdale, who had the honour of being ſelected from among the Faculty here, and went from England in order to inoculate the Empreſs of all the Ruſſias; which ſucceeding, beſides a penſion, he was made a counſellor of ſtate, and body phyſician to her Imperial Majeſty.

Although every inducement led him to conceal the fact, yet, actuated by the love of truth, and patriotiſm towards a country to which he owed his promotion in life, he came forward to ſound the

alarm,

alarm, and ſhew how a ſeeming bleſſing was an actual evil to the ſtate.

" Although the loſs," ſays he, " under inoculation is very inconſiderable, *almoſt the whole* of thoſe that are inoculated recovering, yet by ſpreading the diſeaſe, a greater proportion take it in the *natural* way: *more lives* are now forfeited in London than *before inoculation commenced*, and the community at large ſuſtains a *greater loſs*: the practice therefore is more *detrimental* than *beneficial* to ſociety. In the laſt four years preceding 1776, the London bills from the ſmall-pox aroſe at a medium to two thouſand five hundred and forty-four: this increaſe is truly alarming. The diſeaſe by inoculation at the different public charities throughout London, would ſpread by viſitors, ſtrangers, waſherwomen, doctors, and inoculators; by means of hackney coaches, in which the ſick are to be ſent out to take the air, or by ſound perſons approaching them in the ſtreets."

" The poor in London are miſerably lodged; their habitations are in cloſe alleys, courts, lanes, and old dirty houſes: they are often in want of neceſſaries, even of bedding. The fathers and mothers are employed out conſtantly in laborious occupations and cannot attend the inoculated ſick; ſhould they neglect their occupations, food and neceſſaries would be deficient, and the medicines ordered by the phyſicians would not be regularly complied with. The air in their houſes is impure: they have neither areas, gardens, nor *carriages* for the

the convenience of ventilation, and taking freſh air."

"Sailors and ſea-faring people, many of whoſe lodgings are miſerable in the little houſes bordering on the river, would be liable to catch the diſtemper, and either to fall ſick there without friends or aſſiſtants, or perhaps being infected on ſhore, to carry it to ſea in their contaminated cloaths, and afterwards falling ſick without care or attendance, might ſpread the diſeaſe in foreign climates."

"Country people coming to town for markets, viſits, or pleaſure, would all be ſubject to the danger of infection. Perſons coming from the ſick to public charities, for medicines or advice, by intermixing in the ſtreets, the *public* danger from their infected apparel would be *great* and inevitable: the whole neighbourhood would be expoſed, and in imminent danger, by having the ſmall-pox brought to their doors. The goſſipping diſpoſition of the poor will ſpread it further; and after the ſick recover, ſallying forth in their infected cloaths is certain to add to the miſchief. The children who are able to run about will intermingle in the ſtreets, immediately upon their recovery, with their playfellows: the ſucceſs therefore derived from inoculation muſt be beneficial to a *few* only, but involve a great number of others in danger, to which they would otherwiſe be leſs expoſed."

Dr. Heberden obſerves, "that the poor form the largeſt part of mankind, and only conſider the preſent

preſent moment; and their prejudices are ſtrong, and not to be overcome by reaſon. Hence, while the inoculation of the wealthy keeps up a perpetual ſource of infection, thoſe who either do not chooſe, or cannot afford expence, are more expoſed to this diſtemper. The danger alſo is increaſed by the cuſtom of ſending perſons into the open air in every ſtage of the diſeaſe. Hence, while *inoculation* may be juſtly eſteemed as one of the greateſt improvements ever introduced into the medical art, it occaſions a greater ſacrifice of life by what has been diſtinguiſhed by the appellation of the *natural* ſmall-pox."

As a proof of this poſition, we have the following record from a moſt diligent and careful obſerver of facts, Dr. Willan, in his account of the diſeaſes in London.

"A child having been inoculated in a court (whoſe parent kept a chandlers-ſhop) conſiſting of twenty houſes; the conſequence was, that in this court ſeventeen perſons took the natural ſmall-pox, although the ſeaſon was kind (April); and *eight* of theſe died.

They in their turn became the focus of freſh infection, and thus a private good was converted into a public evil."

The author of this treatiſe has had abundant opportunity to ſee the ſame repeatedly verified in his practice as phyſician to the Mary-le-bone Diſpenſary.

CONCLUSION.

Hence it would appear, that inoculation has done a great injury to ſociety at large, and the difficulty of extending it *generally*, ſo as to convert it truly into a public benefit, is attended with almoſt inſuperable objections: For to make it into a law, that inoculation ſhall be general and periodic, appears both cruel and arbitrary, where ſecurity of life cannot be given to all, and is what no government, grounded on the baſis of general liberty, would venture to adopt.

Hence the laws in our Weſt India plantations, not to encourage, but *againſt*, capricious inoculation; hence the entire prohibition in America of this practice; and, as we ſhall preſently prove, the neceſſity of the ſame ſteps from our Legiſlature, when once the advantages of *vaccine inoculation* (the Cow-pock) ſhall be clearly aſcertained, which we hope to be able to accompliſh in the enſuing pages.

PART II.

ON THE

NATURAL

AND

INOCULATED

COW-POCK.

SECT. VI.

ON THE NATURAL COW-POX AND ITS FREEDOM FROM DANGER.

Pock, in old Engliſh, means a puſtule, and where more than one appears, the plural is uſed; and hence the vulgar appellation of *Cow-pox*, to deſignate a puſtular diſeaſe originating in the cow.

The firſt notice we have of ſuch a diſtemper among theſe domeſticated animals is from Dr. JENNER, a phyſician of great eſtimation in Glouceſterſhire, whoſe penetrating genius did not fail to notice and examine into its *ſuppoſed extraordinary power* OF PREVENTING THE SMALL-POX.

From this diſtinguiſhed phyſician, we were firſt informed of the ſymptoms of this diſeaſe.

"It appears on the teats of the cow, in the form of irregular puſtules. At their firſt appearance they are commonly of a paliſh blue, or rather of a colour ſomewhat approaching to livid, and are ſurrounded by inflammation. The animals become indiſpoſed, are off their food, and the milk is conſiderably diminiſhed. *The death of the animal never follows the diſeaſe.* The cow-

pox is ſoon communicated to thoſe employed in the dairy, and ſpreads through the farm until moſt of the cattle and domeſtics feel its unpleaſant conſequences."

The ſymptoms of having taken this diſeaſe in the *human ſubject*, are

1. " Inflamed ſpots, appearing on different parts of the hands of thoſe engaged in milking and ſometimes on the wriſts, which run on to ſuppuration, firſt aſſuming the appearance of ſmall veſications produced by a burn."
2. " Moſt commonly they appear about the joints of the fingers, and at their extremities; but whatever parts are affected, if the ſituation will admit, theſe ſuperficial ſuppurations put on a circular form, with their edges more elevated than their centre, and of a colour diſtantly approaching to blue."
3. " Abſorption next takes place, and tumours appear under each axilla."

The ſyſtem then becomes affected.

4. " The pulſe is quickened."
5. " Shiverings are ſucceeded by heat."
6. " General laſſitude, and"
7. " Pain about the loins and limbs, with"
8. " Vomiting, and"
9. " The head is painful, and the patient is now and then affected with delirium."

Theſe

Theſe ſymptoms varying in their degrees of violence, generally continue from one day to three or four, leaving"

10. " Ulcerated ſores about the hands, which heal ſlowly, and frequently become phagedænic."

" No eruption ariſes from the abſorption of the virus."

The *cow-pox* being a diſeaſe chiefly falling among a poor claſs of people, and confined to certain diſtricts, and *never proving fatal*, it was long unnoticed, and probably had continued in obſcurity to this day, unleſs it had poſſeſſed the wonderful power of SECURING FROM THE SMALL-POX; *for a perſon* (as will be ſoon proved) *having once had the cow-pox, cannot be afterwards infected either by expoſure to the ſmall-pox, or by the actual inſertion of the matter under the ſkin*, as Dr. JENNER firſt, and others have ſince demonſtrated.

The cow-pox is *now* known to exiſt in Glouceſterſhire, which gave origin to its clear inveſtigation; in the counties of Dorſet, Somerſet, Devon, Hants, Middleſex, Norfolk, Bucks, Oxford, Leiceſter, Stafford. It has been alſo traced in Ireland, Italy, and other parts of the continent.

SECT. VII.

PROOFS THAT THOSE WHO HAVE HAD THE NATURAL COW-POX ARE EVER AFTER SECURE FROM TAKING THE SMALL-POX, EITHER NATURALLY OR BY INOCULATION.

THE firſt caſes ever laid before the public on this intereſting ſubject are thoſe by Dr. JENNER.

Proof I.*

JOSEPH MERRET, now under-gardener to the Earl of Berkeley, living with a farmer at Berkeley, had the *cow-pox* in 1770.

In 1795, a general inoculation took place, and Merret with his family, not knowing the preventive power of the *cow-pox*, was inoculated with the reſt.

The inoculator finding that Merret's arm did not riſe, inſerted the matter repeatedly *but without effect*.

* Proofs I. to V. are extracted from a work, dedicated by permiſſion to his Majeſty, entitled, "*An Inquiry into the Cauſes and Effects of the Cow-pox*, by EDWARD JENNER, M. D." which was the firſt publication on this ſubject; a work which will live in the grateful remembrance of poſterity, until time ſhall be no more!!!

Neither

Neither did he take the ſmall-pox, although he continued with his family, all of whom had the *ſmall-pox*, and ſome of them very fully.

Here is a proof at leaſt of 25 years preſervative power from the ſmall-pox from the *cow-pox*.

Proof II.

Sarah Portlock, of Berkeley, had the *cow-pox*, when ſervant to a farmer in the neighbourhood, 27 years ago.

Laſt year her child caught the *natural ſmall-pox*, whom ſhe nurſed throughout the diſeaſe.

Fearful of taking the ſmall-pox ſhe was alſo *inoculated*.

But ſhe was inſuſceptible of the ſmall pox in either way.

Proof III.

John Philips, a tradeſman of Berkeley, had the *cow-pox* when nine years old.

At 62, Dr. Jenner inoculated him; *but it produced no effect on the ſyſtem*.

Here is a proof of the preſervative power of the *cow-pox* for more than FIFTY years.

Proof IV.

The poor of the village of Tortworth, in Glouceſterſhire, were inoculated by Mr. Henry Jenner in the year 1795.

Upon inquiring among theſe, *eight* perſons acknowledged they had had the cow-pox.

Upon trial all were found to have taken the ſmall-pox who were inoculated, except theſe *eight*; *neither did they take the ſmall-pox from aſſociating with thoſe labouring under this diſeaſe.*

Equally convincing are all the other facts adduced to prove the efficacy of the *cow-pox*, in preſerving us from the *ſmall-pox*, brought forward by Dr. JENNER, in "An Inquiry into the Cauſes and Effects of the Cow-pox;" to which we refer the reader deſirous of further information, and we proceed with the moſt reſpectable CORROBORATING TESTIMONIES in ſupport of this *wonderful property* in the *cow-pox*.

Proof V.

JEOFFRY TREDWELL, a reputable farmer, and a tenant of mine *, about fourteen years ago had the mortification, as he thought, to find the cow-

* Proofs V. to VII. are extracted from a pamphlet entitled "*Reflections on the Cow-pox, illuſtrated by Caſes to prove it an abſolute Security againſt the Small-pox, by* WILLIAM FERMOR, *Eſq.*" The able production of a gentleman of large landed property, reſiding at his ſeat at Tuſmore in Northamptonſhire; a gentleman endowed with the greateſt urbanity of manners, and poſſeſſing a mind ſtored with claſſic lore, and replete with the warmeſt glowings of philanthropy.

pox

pox in the farm he then occupied, at Chefterton, in this neighbourhood.

His brother WILLIAM TREDWELL, being employed in milking the cows, was infected with the *cow-pox*, and had the diſeaſe ſeverely in his hands and fingers.

Jeoffry not being ſo engaged, did not receive the infection.

About three years after, theſe two brothers were inoculated with variolous matter, by Mr. Liſter, of Charlbury, an eminent practitioner, at a houſe appropriated for that purpoſe. WILLIAM TREDWELL, who had undergone the cow-pox, *could not receive the infection*, though he was inoculated ſeveral times, and remained in the houſe with the other patients.

Jeoffry, who had not been infected with it, *had a very full ſmall-pox eruption.*

Proof VI.

ALBAN COLLINGRIDGE had the *cow-pox* about five or ſix and twenty years ago, at his father's farm, at Poodle, which affected his fingers in a violent degree.

About four years after, he was three times inoculated for the ſmall-pox by Mr. Liſter, *without effect.*

Two of his brothers, who had never had the cow-pox, *received the variolous infection.*

He ſlept with them in order to take it, *but no conſequence enſued.*

He has frequently ſince been expoſed to its contagion, and has very lately inoculated his children with the SMALL-POX, *without being in any ſhape infected with it himſelf.*

Proof VII.

Mr. HENRY COLLINGRIDGE, of Godington, a reputable farmer, and a tenant of mine, received the *cow-pox* infection by milking, when he was fourteen or fifteen years of age.

Ten years after he was three times inoculated for the ſmall-pox, *without effect.*

After an interval of ten years more, he had another child inoculated; *but, though fully and frequently expoſed to the contagion, he was not in any degree affected by it.*

Proof VIII.*

On converſing with Sir GEORGE BAKER, Bart. Preſident of the Royal College of Phyſicians, and

The following proofs VIII. to XIII. are extracted from a work entitled, "*An Inquiry concerning the Hiſtory of the Cow-pox, principally with a view to ſuperſede and extinguiſh the Small-pox; by Dr.* PEARSON, *phyſician to St. George's Hoſpital*;" one of the brighteſt luminaries of medical and chemical erudition; who has ever ſhewn himſelf the active inquirer after *new truths,* by whoſe accurate teſts we ſtand or fall; and who, not in one, but in very numerous inſtances, has himſelf extended the vaſt empire of diſcovery.

phyſician

phyſician to his Majeſty, concerning the extraordinary circumſtance of the cow-pox rendering people unſuſceptible of the ſmall-pox, Sir George obſerved, "he had been long ſince informed of the fact in ſome papers communicated to him many years back by his relation the Rev. HERMAN DREWE, of Abbotts; but not finding any credit given to the ſtatement, which ſeemed ſo much to border on the *marvellous*, they were withdrawn from publication *." I accordingly wrote, ſays Dr. Pearſon, a letter to this

* Thus was withheld, for a time, from mankind, the benefit of the knowlege of this marvellous fact; and the Rev. Mr. DREWE, removing to another part of the country, relinquiſhed all further inveſtigation of a ſubject which had once arreſted and occupied his attention; and thus *he* loſt for ever the acquiſition of the proudeſt laurel that could have decorated the brow of man!!

When this *truth* was firſt announced to the public by Dr. JENNER, my emphatic friend Dr. MOSELEY, the able writer on "*Tropical Diſeaſes*," in his "*Miſcellaneous Medical Obſervations*," after giving a long ſtring of ſtrange wonders recorded by men of gravity, relates the following anecdote: "The virtues of the COW-POX are ſaid to be an AMULET AGAINST THE SMALL-POX; and this *charming*, this *excellent*, this *delectable* malady, is reported as equally *mild* and *innocent*, and *communicable* with *ſafety* by *inoculation*."

"*Wonderful things* do certainly appear in *all ages*. The great ERASMUS relates, that there was one PHALARIO, an Italian, who in Holland was very much afflicted with *worms*, and, while the worms were in his body, he ſpoke the *Dutch Language*.—The worms being *cured*, away went his knowledge, and he could not then ſpeak one word of *Dutch!*"

clergyman,

clergyman, who then reſided in Dorſetſhire, from whom I obtained the following information.

" That the cow-pox was a diſeaſe known in Devonſhire, Dorſetſhire, and Somerſetſhire; and an opinion prevailed, that this afforded a ſecurity againſt the ſmall-pox. Accordingly, when Mr. Bragg, ſurgeon of Axminſter, inoculated my pariſh, he rejoiced with me in having an opportunity of clearly aſcertaining this fact.

" He found, out of 53 patients, *three* women who declared they had had the cow-pox, but not the ſmall-pox; and theſe were charged with ſuperabundance of ſmall-pox matter.

" *All the others took the infection but the three women, who were not in the leaſt diſordered; nor did they catch the ſmall-pox by aſſociating with thoſe who laboured under it.*

" In my neighbourhood there were *thirteen* ſimilar examples of the ſame kind."

Proof IX.

The Rev. Mr. Herman Drewe mentioned that he alſo obtained a further confirmation of the truth of this opinion from the experience of Mr. Downe, ſurgeon of Bridport.

" This ſurgeon having inoculated from between ſix or ſeven hundred perſons at one ſeaſon, found only *two* who could not be infected; and upon inquiry he learnt that they had had the *cow-pox*."

His

His other ſource of information was from Mr. Barnes, of Colyton, ſince dead.

Proof X.

"Happening, with Mr. Lucas, apothecary, to be called on profeſſional buſineſs to Willan's farm, adjoining the New Road, Mary-le-bone, which contains from 800 to 1000 milch cows; I availed myſelf (ſays Dr. PEARSON) of this opportunity to make ſome inquiries about the cow-pox.

"I was informed that this diſeaſe was not unfrequent; and in January laſt more than 200 out of this number of cows had been affected with this diſorder.

"Three of the milkers whom I met with there, profeſſed having had the cow-pox, but never the ſmall-pox, and they conſented to my inoculating them. Two other men, who had never had either the cow-pox, or ſmall-pox, agreed alſo to be inoculated with variolous (ſmall-pox) matter."

The caſes of the three firſt are as follows.

Caſe 1.

THOMAS EDINBURGH, aged 26, had lived ſervant at Willan's farm the laſt ſeven years.

The firſt year of his coming there he took the *cow-pox* with others.

He had eruptions on the palms of his hands, which left a cicatrix, and were ſo painful that he was obliged to deſiſt from his employ.

A fever

A fever coming on, and tumours ariſing under the axillæ, which were very ſore to the touch, he went into a public hoſpital, where he was diſmiſſed cured.

Caſe 2.

THOMAS GRIMSHAW, aged 30, had the cow-pox at the ſame time as Thomas Edinburgh, but with ſomewhat milder ſymptoms.

Caſe 3.

JOHN CLARKE, aged 26, had the cow-pox at Abingdon, ten years back, and was under a ſurgeon of that place.

Theſe three were inoculated with the ſmall-pox matter by the ſurgeon at the ſmall-pox hoſpital, from a patient in a proper ſtate to take the matter.

It may be proper for readers not converſant with the ſmall-pox inoculation, to relate the uſual progreſs of infection:

A ſmall particle of variolous (ſmall-pox) matter being applied by a ſuperficial puncture of the ſkin, uſually produces, in the courſe of three or four days, or ſooner, a little *elevation* of the punctured part, diſcoverable by the touch, and a *red ſpeck* diſtinguiſhable by the eye.

From this time the *redneſs* advances in a *circular form*, more or leſs rapidly, according to the conſtitutional circumſtances of the patient; and the firſt effect of this ſuperficial inflammation is the

formation of a *veſicle* upon its centre, which uſually appears between the fourth and ſeventh day after the inoculation.

The extent of this veſicle is generally found to bear ſome proportion to the intenſity of the inflammation; and contains a *limpid fluid*, by the abſorption of which the ſmall-pox is produced.

The veſicle ſoon burſts, and the central part of the puncture becomes depreſſed, and often of a *dark hue*; which appearances, together with the *marginal inflammation*, continue to increaſe till the eruptive ſymptoms ſubſide, when the edges of the depreſſed part begin to ſwell with a *purulent fluid*, and the inflammation gradually recedes.

The ſubſequent fever uſually proves on or about the eighth day.

The two men, who had neither the cow-pox or ſmall-pox, exhibited, upon inoculation, the appearances above ſtated, and Kent had 30 puſtules, the other 12.

In the others, for inſtance, in the caſe of Thomas EDINBURGH,

A *ſlight elevation* appeared in the parts inoculated.

The *red ſpeck* and *marginal inflammation* ſeemed too rapid for the ſmall-pox infection.

In leſs than four days the *part inoculated* on the right arm looked more like a *gnat-bite*.

On the left there was a *little ſcab*, which was rubbed off, and left only a ſcarcely viſible red mark.

There

There was no *conſtitutional affection*, or any complaint whatever.

The ſame thing nearly occurred with Thomas GRIMSHAW.

It was ſomewhat different with JOHN CLARKE.

He was inoculated in both arms at the ſmall-pox hoſpital.

On the *third day* there was an inflammation, and a fluid in the parts inoculated: but theſe appearances were judged to be *premature* as far as reſpects the ſmall-pox.

On the *ſixth day* theſe appearances wholly deſerted the left arm.

On the *eighth day* there was inflammation on the right arm.

No ſigns of ſickening, or any eruption, or indiſpoſition.

He was inoculated again, but *without effect*.

It ſhould alſo be remarked, that the three patients abovementioned, who did not take the infection on *inoculation*, had their children afterwards inoculated, who all had the ſmall-pox. Theſe men lived in the ſame apartment with their children during the illneſs of the ſmall-pox, *but not one of them was infected.*

Proof XI.

Mr. ROLF, who was colleague of Mr. GROVE of Thornbury, a famous inoculator for upwards of

forty

forty years, in a letter publiſhed by Dr. Beddoes *, dated June 10th 1795, communicated the following obſervations:

Speaking of a man who could not be infected, although he was repeatedly inoculated for the ſmall-pox, and although he lived in the ſame room with another man who died of the ſmall-pox, Mr. Rolf ſays, "it is worthy of remark, that this man had, ſome years before, a complaint incident to cows, commonly called the *cow-pox*; a malady more *unpleaſant* than *dangerous*, for there is no inſtance of any one dying of the cow-pox. It is received by contact in milking, uſually from chops in the hands.

"In the human being, the complaint is ſometimes *local*, at other times *abſorption* takes place, and the glands in the courſe of the abſorbents become indurated and painful. In either caſe, *I have learned*, from my own multiplied obſervations and the teſtimony of the oldeſt practitioners of inoculation, THAT SUSCEPTIBILITY TO THE SMALL-POX IS DESTROYED. Some advantage may probably, *in time*, be derived from *this fact*."

* Vide "*Queries*" of this great phyſician "*on Inoculation*," ſubjoined to a tranſlation of Gimbernat's New Method, &c. The obligations mankind owe to Dr. Beddoes are incalculable; his high merits are ſuperior to my feeble praiſe. At ſome future period his extenſive views will be fully underſtood; and *then* he will be rightly, and not till *then* rightly appreciated.

Proof

Proof XII.

Abſtract of a letter from Mr. FEWSTER, ſurgeon in Thornbury, dated October 11th, 1798, to Mr. ROLPH. "In the ſpring of the year 1768 I came to live at Thornbury, where I have reſided ever ſince. In that very year, from the following occurrence, I became well acquainted with the diſeaſe called the *cow-pox*. The late Mr. GROVE and MYSELF formed a connection with Mr. SUTTON *, the celebrated inoculator; and, to inoculate

* Mr. ROBERT SUTTON, the firſt of this name who acquired celebrity as an inoculator, reſided at Debenham, in Suffolk, where he practiſed ſurgery and pharmacy. He began to inoculate in February, 1757, from which year to 1767 the number of perſons inoculated by him was 2,514.

Two of his ſons, ROBERT and DANIEL, deſigning to follow the profeſſion of their father, were employed in the diſpenſing of medicines, and in aſſiſting him during the three firſt years of his practice of inoculation: after which, Robert, the elder brother, removed to Bury St. Edmund's, where he became an eſtabliſhed inoculator; while Daniel acted as aſſiſtant to Mr. Bumſtead, a ſurgeon and apothecary at Oxford.—The latter, on his return to Debenham in the year 1763, ſuggeſted to his father (as I was informed by him) a NEW PLAN of inoculation, in which he propoſed *to ſhorten the time of preparation to a few days, and not to confine the inoculated patients to the houſe, but to oblige them to be in the open air as much as poſſible during the whole progreſs of the diſtemper.*

To reduce the proceſs preparatory to inoculation, from a a month, which was then the uſual time, to eight or ten days,

late for the ſmall-pox, we took conjointly a houſe at Buckover. *We* found in this practice, that a *great number of patients could not be infected with the ſmall-pox, notwithſtanding they were inoculated and expoſed*

days, was to obviate the objections that many perſons had made to inoculation, from the great length of time it required. This, therefore, might be thought a meaſure of expediency, to bring a greater number of patients; but obliging thoſe under inoculation to walk out in the *cold air*, during the eruptive fever, ſeems to have been a practice derived from Sydenham, and confirmed by experience. However, Mr. Sutton, the *father*, could not be perſuaded to adopt any *innovation* in his practice of inoculation, and would not hear of his ſon's *new* ſcheme, which he *condemned* as not only *raſh* and *abſurd*, but as *extremely dangerous*. Daniel ſoon afterwards, however, availed himſelf of repeated opportunities of carrying it into effect, and found it to anſwer his utmoſt expectations. The advantages of this *new plan* were ſoon perceived by the *patients*, who now began to manifeſt a deſire of being ſolely under the direction of Mr. D. Sutton. This preference gave occaſion to a diſpute between the father and the ſon, about the end of the year 1763, when the latter determined to practiſe inoculation uncontrolled by parental authority; and for this purpoſe he opened a houſe in the neighbourhood of Ingateſtone, in Eſſex. Here the young adventurous inoculator, by public advertiſements and hand-bills, propoſed to inoculate upon an *improved method*, peculiar to himſelf; and alſo hinted, that, by the *uſe* of *certain medicines*, he could always render the *ſmall-pox* an *innocent* and *tractable diſeaſe*. Three months elapſed before he profited by his new ſituation: but he afterwards ſucceeded ſo well, that at the cloſe of the firſt year his profeſſion produced him 2000 *guineas*: and in the ſecond year, which he ſays was the moſt profitable of any that he

 experienced,

expoſed to the ſtrongeſt contagion of the ſmall-pox. This excited in *us* much ſurprize, and *we* were not able to account for the circumſtance, until a farmer mentioned, that he had had the *cow-pox* lately, and wiſhed to know, whether our failure of repeated inoculation in him did not originate from this cauſe. His expreſſion was, as well as I recollect, "*I have had the cow-pox lately to a violent degree, if that's any odds* *." We took the hint, and, on inquiry, found, that all thoſe who were not to be

experienced, his fees amounted to more than *treble this ſum.* His *fame* was now ſpread to the moſt diſtant parts of the kingdom; and the numbers that reſorted to him for inoculation conſtantly filled the village of Ingateſtone, ſo that it was with great difficulty lodgings could be procured for the purpoſe. His practice in Kent being alſo very extenſive, he was under the neceſſity of employing ſeveral medical aſſiſtants. He alſo eſtabliſhed other connections over the kingdom; and he is reported, by the Rev. Mr. Houlton, chaplain to the Earl of Ilcheſter, (vide a ſermon on Inoculation, preached at Ingateſtone, Oct. 12, 1766,) along with his aſſiſtants, to have inoculated within three years upwards of 20,000 perſons.

* This circumſtance ſhould have led to VACCINE INOCULATION; but the time was not yet come, the honour being reſerved by Providence for another. Had D. SUTTON, or his colleagues, inſtituted VACCINE INOCULATION in lieu of the ſmall-pox inoculation, they would have *ſtill more* earned the plaudits of mankind. To them moſt aſſuredly we owe the extirpation of the *ſweating practice* in the ſmall-pox, and the preferable adoption of the *cool regimen*, as recommended by the great Sydenham.

infected,

infected, had *all* undergone the *cow pox.* I communicated this extraordinary fact to a medical ſociety of which I was a member, and ever after paid a very particular attention to the circumſtance; and am now ſo convinced of this truth, that I can affirm, that I have not been able to produce the SMALL-POX, *in a ſingle inſtance, among perſons who have had the* COW-POX."

He adds, " This fact was lately clearly aſcertained by me, when I inoculated upwards of two thouſand perſons for the ſmall-pox."

Proof XIII.

About twenty years ago*, when Dr. ARCHER was the phyſician of the hoſpital for inoculation, CATHARINE WILKINS, now Titchenor, from Cricklade in Wiltſhire, who had the cow-pox in conſequence of milking cows, came to her brother in London, (where ſhe is now reſident,) who, being de-

* This curious fact is extracted from a pamphlet intituled " *Obſervations on the Cow-pox by* JOHN COAKLEY LETTSOM, M. D." a phyſician of great repute, whoſe quaker appearance would beſpeak him a man of ſentences, but in whoſe writings are to be found all the graces of diction, and faſcination of eloquence. (Vide motto to this book.) His ſtrong appeal to parents, guardians, and the clergy, on the ſubject of *vaccine inoculation*, can ſcarcely fail of producing its deſired effect; and the *ſhades* of Jenner, Pearſon, and Woodville, with which he has embelliſhed his work, muſt be an acceptable acquiſition to his leſs opulent brethren, admirers of the benefactors of mankind.

ſirous of aſcertaining whether this circumſtance could be depended upon as a preventive of the ſmall-pox, ſent her to the hoſpital for inoculation, when ſhe received the variolous matter from Dr. Archer; againſt which, however, ſhe was proof, and the ſmall-pox of courſe could not be communicated; but *no advantage was derived from this fact* *.

* Archer was a prudent, cautious, and rather timid practitioner, and he advanced much by his attentions to the hoſpital for inoculation at Pancras; but he neither poſſeſſed the ſpirit of inquiry of a Woodville, nor the genius of diſcovery of that Man who was deſtined to form a new æra in medical practice; ſo that the boon offered him by Providence dropt from between his hands!

It is ſomewhat mortifying to human nature to think, that, from ſuch *palpable hints*, men, bred to the profeſſion of phyſic, and more particularly converſant with the ſmall-pox, ſhould not have drawn out an *uſeful inference*.

SECT. VIII.

THE ANTIQUITY OF THE COW-POX, AND THE KNOWLEDGE, THAT IT WAS A SECURITY AGAINST THE SMALL-POX; AND OF SOME RUDE ATTEMPTS FORMERLY MADE OF ACQUIRING THIS DISEASE.

PURSUING the ſame conduct in this diſquiſition, as in that of the *ſmall-pox*, we ſhall find that the knowledge of the ſecurity which the cow-pox gave over the ſmall-pox had long prevailed in many parts of England; and the untutored ſenſe of mankind even led to the adopting the practice of *taking this diſeaſe*, as a ſecurity againſt the ſmall-pox.

PROOF 1. The Rev. JOHN SMITH of Wendover, to whom (ſays Dr. Pearſon) I owe many thanks for very willingly, at my requeſt, taking upon himſelf the trouble of making inquiries in his neighbourhood, informs me, "that the high land of his pariſh does not admit of dairying upon it, and the dairy farmers here know nothing of the cow-pox. But Mr. HENDERSON, the ſurgeon in the pariſh, whoſe practice takes him a little into the vale, tells me, that he has met with the diſeaſe; and that, a few years ago, he three times endeavoured to inoculate a lad,

who had been uſed to milking, but could only excite inflammation upon the arm, without any puſtulous appearance; and, upon inquiry, he found the lad had previouſly been affected with the cow-pox. Mr. WOODMAN, a ſurgeon at Ayleſbury, had met with the diſeaſe among the cow-boys in the vale. Mr. GREY, a ſurgeon of Buckingham, ſays, the diſorder is common among the milkers in his neighbourhood. He had not been led to conſider, particularly, the effects of the diſeaſe; but he remembers *one boy poſſeſſed of the idea that he could not take the* SMALL-POX *by inoculation, becauſe he had had the* COW-POX; and that he could only excite redneſs upon the boy's arm."

2. On calling at Mr. RHODES' milk farm on the Hampſtead Road, where there is a very large ſtock of cows, I found the cow-pox, ſays Dr. Pearſon, had not fallen under his obſervation; but two of the male ſervants were well acquainted with ſome parts of its hiſtory. It appeared, alſo, on inquiry, "that one of the cows had really laboured under the diſeaſe two months before, namely, in May laſt; but the milker was not infected, becauſe he ſaid there were no cuts on his hands, or abraſion of the cuticle. It was deſcribed very clearly to be a different diſeaſe from the common inflammations and eruptions which produce ſcabbed nipples. One of the male ſervants had often ſeen the diſeaſe in Wiltſhire and Glouceſterſhire. The milkers, he ſaid, were ſometimes ſo ill, as to lie in bed for ſeveral days, and

there

there was a fever at the beginning, as in the ſmall-pox, but that *no one ever died of it.* He had known *many perſons* who had laboured under the *cow-pox*, but who had never ſuffered the *ſmall-pox, although it prevailed in their own families*; except in *one inſtance* in which he was told that the perſon who took the ſmall-pox, had gone through the cow-pox when a child. The ſame ſervant ſaid it was a *common opinion*, that people who have been affected with the cow-pox, to uſe his own words, are "*hard to take the ſmall-pox.*"

3. A male ſervant of Mr. FRANCIS, who keeps a farm for milch cows on the road to Somers' Town, who appears to be a very intelligent man, and is ſaid to be a man of veracity, and had lived in dairy farms all his life, ſtated, "that he had ſeen the cow-pox 35 years ago at King's Wood in Somerſetſhire, and frequently there, and in London, ſince that time. The diſeaſe, he ſaid, was then vulgarly called the cow-pox; it appeared on their teats and udders with fiery or flame-like eruptions—was very infectious among the cows and the milkers; but never knew *either human creature or beaſt die of it.* It affects the hands and arms of the milkers with painful ſores, as large as a ſixpence, which laſt for a month or more, ſo as to diſable the ſufferers from continuing their employment. The diſeaſe breaks out eſpecially in the ſpring, but occaſionally at other times of the year. Moſt of the cows in his maſter's (Mr. Francis's) farm were

infected three years ago in the ſpring, at which time many of the milkers were alſo infected. A new cow is very liable to take the diſeaſe.—He had *always underſtood that a perſon who had had the* COW-POX, *could not take the* SMALL-POX, *and never knew in the courſe of his life an inſtance of the ſmall-pox in ſuch perſons.*"

4. Dr. WALL, profeſſor of phyſic at Oxford, writes: "A ſervant who has kept the cows of a conſiderable dairy-farm in this neighbourhood a great many years, told me, that he had had the cow-pox early in life. Yet about ſix or ſeven years ago he wiſhed, for ſecurity, to be inoculated for the ſmall-pox.—The operation was performed three ſeveral times, but no diſorder nor eruption enſued. The *ſurgeon*, a gentleman of *great eminence* in *this place*, aſked him if *he had ever had the cow-pox*; upon his anſwering *yes*, the *ſurgeon* replied, '*Then it is uſeleſs to make any farther trial.*' This ſervant, the next year, had ſeveral children inoculated by Sutton. He was with them all the time till their recovery, but did not receive the infection."

5. Dr. CROFT tells me, that, in Staffordſhire, to his knowledge, *the fact has been long known*, "*of the cow pox, which prevails in that county, affording an exemption to the human ſubject from the ſmall-pox.*"

6. "My honourable friend, Mr. EDWARD HOWARD," ſays Dr. Pearſon, "has been aſſured, on very good authority, that of a relation, who is an officer in the Oxfordſhire militia, that it is a *received*

opinion among the ſoldiers, *that it is unneceſſary to be inoculated for the ſmall-pox if they have already laboured under the cow-pox*, as many of them have done."

7. *Extract of a letter from Dr.* FOWLER *to Dr.* PEARSON, *dated Sarum, October* 24, 1798.

" My dear Sir,

" The diſeaſe called cow-pox is known in this neighbourhood only to a few farmers, *but they underſtand that it is a preſervative from the ſmall-pox.* This morning, *Ann Francis*, a ſervant girl, aged 26 years, was brought to me. She informs me, that ſome years ago bluiſh puſtules aroſe on her hands, from milking cows diſeaſed by the cow-pox. Theſe puſtules ſoon became ſcabs, which, falling off, diſcovered ulcerating and were very painful, which were treated by a cow-doctor, and were long in healing. Some milk from one of the diſeaſed cows having ſpurted on the cheek of her ſiſter, and on the breaſt of her miſtreſs, produced, on theſe parts of both perſons, puſtules and ſores, ſimilar to her own on her hands. None of theſe three had ſuffered the ſmall-pox, nor have they gone through it ſince that time, although they have been much expoſed to the infection; and the ſiſter abovementioned has been inoculated three times for the ſmall-pox. The cow-doctor who attended theſe three women ſaid, " *he would forfeit his life if any of them ſhould afterwards have the ſmall-pox.*"

" With

"With ſincereſt good wiſhes for the ſucceſs of your inquiries, and all your other undertakings,

"I am, &c. &c.

"R. FOWLER."

8. Dr. PULTENEY, phyſician at Blandford, informs me, "that a very reſpectable practitioner acquainted him that of *ſeven* children whom he had inoculated for the ſmall-pox, *five* had been previouſly *infected with the cow-pox purpoſely*, by being made to handle the teats and udders of infected cows; n conſequence of which, they ſuffered the diſtemper. Theſe *five*, after inoculation for the ſmall-pox, did not ſicken; the other *two* took the ſmall-pox."

9. Dr. BARRY, a very diſtinguiſhed phyſician in the North of Ireland, relates, among other caſes, the following:

"We have a woman here, *who*, 37 years ago, was brought with a *number of other children* to a dairy, for the expreſs purpoſe of being infected with a diſorder incident to cows, called by the Iriſh SHINACH; which, according to the *general belief*, would for ever ſecure thoſe ſo affected from the ſmall-pox."

"She was afterwards twice inoculated for the ſmall-pox, but without effect; and the inoculator declined repeating the operation, alledging, *that there*

was

was not the ſmalleſt chance of her catching the ſmall-pox, as he could aver from frequent experience."

"She has ſince that period been often expoſed to the ſmall-pox, and even ſlept with her own children in the height of the eruption, but could not take the diſeaſe."

We are next favoured by Dr. BARRY with the extract from a letter received, which more fully confirms this former ſentiment.

"It is full thirty years ſince my *mother* had the cow-pox. She recollects having had two puſtules on the hand, which were much inflamed, looked livid, and afterwards went on to ſuppuration. She was inoculated ſince, and expoſed to the infection of the ſmall-pox repeatedly, but without taking this diſeaſe, which has been *attributed to her having had the cow-pox*, known univerſally among our farmers by the name of SHINACH."

"I was laſt night ſpeaking to my *grandmother* on this ſubject. She had the cow-pox fifty years ago. At the time ſhe had the diſeaſe, ſhe was told there was ſcarcely a ſpring but this diſorder appeared in ſome of the farms among the cows; and *it was univerſally believed, that thoſe who took it were ever after exempted from the ſmall-pox, and that people expoſed themſelves to it as much as poſſible.*"

"My grandmother, who is more than eighty years old, declares, that the opinion of the SHINACH affording ſecurity from the ſmall-pox *always prevailed*

in that part of the country, as long as ſhe can remember any thing *."

In Glouceſterſhire, where Dr. Jenner reſided, the opinion "that the Cow-pox *prevented the* Small-pox" was indeed admitted by ſome: but the ſubject was extremely *doubtful* from the *difficulties* hereafter to be explained, which were ſoon cleared away by the bright emanations of a Jenner!

* Theſe curious facts, which came out *after* the eſtabliſhment of *vaccine inoculation* by the illuſtrious Dr. Jenner, are derived chiefly from the laudable activity of Dr. Pearson in his "*Inquiry*;" or are to be met with in the "*Phyſical Journal*," a medical magazine, which has gained the approbation of its numerous readers by the very candid manner it has conducted the extended information received reſpecting the *Cow-pox*, and the judicious remarks occaſionally introduced on this important diſcovery by its learned editors Drs. Bradley and Batty.

SECT. IX.

THE DISCOVERIES OF DR. JENNER RESPECTING THE COW-POX.

AFTER the peruſal of ſome parts of the two laſt ſections, it might appear ſurpriſing to many, that the *cow-pox* was not *long ago* made a ſubject of general attention, and, by an apparently eaſy tranſition, introduced as a ſubſtitute for variolous inoculation.—But when we conſider how few there are who dare quit the trammels of education, and depart from the beaten track; how few that have activity of mind ſufficient, and reſolution, to inveſtigate a ſubject involved in much obſcurity; and, indeed, how ſeldom fortunate the ſearchers into difficult ſubjects are, ſo as to unravel the whole perplexity, and force conviction upon a world, fearful of becoming the dupes of viſionary ſchemes, and adverſe to the receiving of novelties; no one will, after ſuch a conſideration, refuſe his aſſent to the merit aſcribed to Dr. JENNER.

Inſtead of being dazzled at the newneſs of this ſubject, and overwhelmed with the grandeur of one conception; inſtead of being ſatisfied with the ſingle and important diſcovery, that the *vaccine inoculation* could be made a ſubſtitute for the *variolous* (the COW-POX for the SMALL-POX); "a diſcovery

covery ſo ſalutary to the human race," and ſeemingly ſufficient to ſatiate the fulleſt ambition; this great phyſician patiently laboured throughout the whole ſubject, and traced *alſo* the origin of the cow-pox, its ſeveral ſtages, its diſcrimination from other puſtular diſeaſes with which it might be confounded, and conducted this arduous inveſtigation with a penetration and modeſty the moſt admirable!

The cold ſtatue-like inſenſibility of ſome; the affected indifference of others; the ſneer uttered by this man; the irritable ſelf-love of the other; the attachment of mankind for the practice of their fathers; the hatred of novelty; all the low and vulgar prejudices *; with falſehoods abundantly forged,

* Among theſe can we refrain from reckoning the Queries made by Dr. MOSELEY in his "*Medical Obſervations.*"

"The ſmall-pox (ſays this writer) is undoubtedly an *evil*; but we underſtand the *extent* of that ill, which we *had better bear*

"Than fly to others we *know not of.*"

"The ſubject reſpecting the diſtempers ariſing from the brute creation, of which we know *but little* at preſent, has not been overlooked by the learned and curious, nor is hiſtory deſtitute of *many inſtances* of their *fatal effects* to the human race."

"Who knows what ideas may not ariſe in the courſe of time from a *brutal fever* having excited its incongruous impreſſions on the brain?"

"Who knows, alſo, but that the *human character* may undergo

forged *, and miſtaken facts, aſſailed Dr. JENNER, as

dergo *ſtrange mutation* from quadrupedan ſympathy, and that ſome modern PASIPHAE may rival the fables of old?"

" I write this," adds Dr. Moſely, " to ſtop the hurry of public *credulity*, and guard parents againſt ſuffering their children becoming *victims* to experiment."

" I am truly ſorry," ſays Dr. LETTSOM, " to find my friend Dr. MOSELEY, whoſe learning and extenſive practice muſt have great influence on the public opinion, ſhould have conceived very *falſe notions* of VACCINE INOCULATION, and oppoſe it on account of its *origin*, and even venture ſo far as to brand the *promoters* of the diſcovery of Dr. JENNER, as perſons *infected* with *Cow-mania*." Vide note at page 110.

* " It has been aſſerted, that perſons have had the ſmall-pox after having been affected with the cow-pox; and ſome facts have been publiſhed with a view to ſhow that inſtances of this kind have actually happened. But all theſe, as far as I have ſeen, have been very defective in not affording ſufficient proof, that the affection, ſuppoſed to have been the cow-pox, was in *reality* that diſeaſe." WOODVILLE.

For a full detection of numerous forgeries and errors, vide an elaborate Treatiſe on the Cow-Pox, in two volumes octavo, 500 pages in each volume, containing " *the Hiſtory of* VACCINE INOCULATION, *and an Account of the various publications which have appeared on the ſubject, in Great Britain, and other parts of the world. By JOHN RING, Member of the Royal College of Surgeons in London.*"

" The practice of inoculating with vaccine matter is introduced," ſays this laborious and energetic author, " under the moſt happy auſpices. It was firſt uſhered into the world by a phyſician, endowed *with every accompliſhment that can adorn his profeſſion*; it has ſince been adopted by others, *who have diſtinguiſhed themſelves in ſimilar purſuits*."

" There

as they did our immortal HARVEY, at the onſet; but he ſtood like a rock immoveable:

> Ille—velut rupes, vaſtum quæ prodit in æquor,
> Obvia ventorum furiis, expoſtaque ponto,
> Vim cunctam atque minas perfert cœlique mariſque,
> Ipſa immota manens.
>
> VIRGIL.

and

"There are, however, ſome perſons, equally hoſtile to all excellence, and to all improvement, who declare open war againſt this *new light*; like the bat, which cannot endure the face of day. One of them intimates, in the *Gentleman's Magazine*, "that he is determined to go to church through the ſame dirty road where his anceſtors trudged before him; that if his anceſtors had worſhipped Belzebub, he would have worſhipped Belzebub alſo; that he wiſhes to practiſe phyſic, as he always has practiſed it; and that he is a ſworn enemy to all *INNOVATION*, in *religion*, *politics*, and *phyſic*."

"If innovation in the practice of phyſic is to be excluded, adieu to all improvement! It is therefore to be hoped, that thoſe who entertain the ſame ſentiments, already practiſe it in perfection!"

"For the ſake of others, who have not attained that conſummate excellence, ſo devoutly to be wiſhed,—who conſider medicine as in a progreſſive ſtate,—and, with HIPPOCRATES, deem it an art only to be matured by length of time,—I ſhall extend my reſearches; and endeavour to collect, from every quarter, the *teſtimonies* advanced in favour of this practice, and the *objections* urged againſt it."

"To thoſe who have peruſed all that has been written in its behalf, and ſeen the diſeaſes under the mild aſpect which it now aſſumes, any farther attempt to recommend it may appear like a waſte of argument; but, having conſidered

and patiently liſtening to, and anſwering all objections *, he evinced himſelf both the philoſopher and the gentleman.

1. *Reſpecting the origin of the* Cow-pox Dr. Jenner *offers the following conjecture:*

He remarks "that, the active quality of the virus from the horſes' heels is greatly increaſed after it has acted on the nipples of the cow, as it *rarely* happens that the horſe affects the dreſſer with ſores, and as rarely that a milk-maid *eſcapes* the infection when ſhe milks infected cows. It is moſt active *at the commencement of the diſeaſe*, even before it has acquired a pus-like appearance; indeed I am not confident whether this property in the matter does not entirely ceaſe as ſoon as it is ſecreted in the form of pus. I am induced to think it does ceaſe, and

ſidered the *prejudices that ſtill prevail, owing to ignorance and miſrepreſention*, I eſteem it a SACRED DUTY to try to *diſpel the miſt*, and *free the mind from deluſion*."

"Oh! while adown the ſtream of time thy name
"Expanded flies, and gathers all its fame,—
"Say, ſhall *my little bark* attendant ſail,
"Purſue the triumph, and partake the gale!" Pope.

Certainly it will; and the name of Ring will paſs down the current of time, as one of the moſt active and able champions of the fame of Dr. Jenner; and his work will be eſteemed as a moſt faithful mirror of the various ſentiments excited by, and the progreſs of, this immortal diſcovery!

* Vide further obſervations on the Variolæ Vaccinæ, or Cow-pox, by E. Jenner, M.D. F.R.S. being a vindication of his former opinions, with additional remarks.

that it is the thin darkiſh-looking fluid *only*, oozing from the *newly-formed cracks in the heels* *, ſimilar to what ſometimes appears from eryſipelatous bliſters, which *gives the diſeaſe*. Nor am I certain that the nipples of the cows are at *all times* in a ſtate to receive the infection. The appearance of the diſeaſe in the ſpring and early part of the ſummer, when they are diſpoſed to be affected with ſpontaneous eruptions ſo much more frequently than at other ſeaſons, induces me to think, that the virus from the horſe muſt be received upon them when they are in this ſtate, in order to produce effects: experiments, however, muſt determine theſe points. But it is clear that when the cow-pox virus is once generated, that the cows cannot reſiſt the contagion, in whatever ſtate their nipples may chance to be, if they are milked with an infected hand."

He goes on to ſay, "whether the cow-pox is a *ſpontaneous* diſeaſe in the cow, or is to be attributed to matter conveyed to the animal, as I have conceived, from *the horſe*, is a queſtion, which, though I ſhall not attempt now fully to diſcuſs, yet I ſhall digreſs ſo far as to adduce ſome obſervations, and give my reaſons for taking up an opinion that to ſome has appeared extremely *fanciful*. The aggregate of theſe obſervations, though not amounting to poſitive proof, forms *preſumptive evidence* of ſo forcible a kind, that I imagine it might on any

* This obſervation ſhould be carefully conſidered by experimenters.

other

other perſon have made the ſame impreſſion it did on me, without fixing the imputation of *credulity* *."

" FIRST.

* Relative to Dr. WOODVILLE's oppoſition to Dr. JENNER as to the origin of the Cow-pox, who repreſents Dr. Jenner as "*miſled,*" (Dr. W— not ſucceeding in producing the *cow-pox* from the greaſe in horſes,) all we dare at preſent ſay is,"—

" Humanum eſt errare." HOR.

a motto which may be as a ſalvo applied to either party. And we would wiſh the reader to reflect, that, as long as the *Cow-pock matter* is to be procured with facility for inoculation, this ſubject may be deemed *ſpeculative*; and concerning the *prejudice* of taking a diſeaſe from ſo uſeful an animal as a *horſe,* or ſo ſweet an animal as a *cow,* is certainly a point *immaterial.* The head-ache yields as readily to *black* leeches, as if they were beautifully variegated; and the *ſhining ſplendour* of the Spaniſh flies is of little conſideration to one ſmarting under a bliſter, or labouring under ſtrangury. The reader ſhould look only to *facts*; for, whether the *axe* is ſilver or iron, the ſtroke is the ſame.

Dr. Pearſon ſays " that Dr. PARR (not the Rev.) is the only learned man whom he knew oppoſed to the cow-pox." The only eminent author whom I know, who at once conceived a violent prejudice againſt *vaccine inoculation,* is the learned Dr. MOSELEY, ſo often mentioned in the notes. Like a counſellor he took advantage of the difference of opinion betwixt Dr. Jenner and Dr. Woodville " *as to the origin of the cow-pox*;" and thus humourouſly treated a ſubject too grave and too important for " ſerious trifling."

" The *cow-pox,*" ſays this writer, " has lately appeared in England. This is a *new ſtar* in the ÆSCULAPIAN ſyſtem. It was firſt obſerved from the provinces. It is ſo luminous there, that the *greaſy-heeled* hind feet of PEGASUS are viſible to the naked eye; the *hidden parts* of that conſtellation, which have puzzled aſtronomers, as *to the ſex* of Pegaſus, and which HIPPARCHUS, TYCHO, HEVELIUS, FLAMSTEAD, and

"FIRST. I conceived this was its ſource, from obſerving that where the cow-pox had appeared among the dairies here (unleſs it could be traced to the introduction of an infected cow or ſervant), it had been preceded at the farm by a horſe diſeaſed in the manner already deſcribed, which horſe had been attended by ſome of the milkers."

"SECONDLY. From its being a popular opinion throughout this great dairy country, and from its being inſiſted on by thoſe who here attend ſick cattle."

"THIRDLY. From the total abſence of the diſeaſe in thoſe countries where the men ſervants are not employed in the dairies."

"FOURTHLY. From having obſerved that morbid matter generated by the horſe frequently com-

HERSCHEL, could never diſcover. The reaſon now is evident. The medical PYTHONISSAS are divided in their opinions reſpecting this phenomenon."

But, to do juſtice to my friend Dr. MOSELEY, after this diſplay of *deep-reading*, and *queries too ludicrous* to be delivered, I think, in earneſt, he concludes, "I wiſh it to be underſtood, I mean no *diſreſpect* to the *ingenious*, nor to *diſcourage inquiry*; THE OBJECT WELL DESERVES IT:—all I deſire is, that *this ſubject* may undergo a *deep*, *calm*, and *diſpaſſionate* ſcrutiny. *In the mean time*, I would guard parents againſt ſuffering their children becoming *victims* to *experiment*." The language uſed, however, as might be expected, gave univerſal offence; and what was ſaid half in joke, was ſuppoſed to be meant in gravity; and it was imagined that ſuch opinions might ſtifle the inquiry; but, according to an old adage, "Magna eſt veritatis potentia, et prævalebit."—

municates,

municates, in a caſual way, a diſeaſe to the human ſubject ſo like the cow-pox, that in many caſes it would be difficult to make the diſtinction between one and the other."

"FIFTHLY. From being induced to ſuppoſe, from experiments, that ſome of thoſe who had been thus affected from the horſe reſiſted the ſmall-pox."

"SIXTHLY. From the progreſs and general appearance of the puſtule on the arm of the boy whom I inoculated with matter taken from the hand of a man infected by a horſe; and from the ſimilarity to the cow-pox of the general conſtitutional ſymptoms which followed."

"One inſtance has lately occurred to me," adds Dr. JENNER, "of the ſyſtem being affected from the matter iſſuing from the heels of horſes, and of the perſon remaining afterwards unſuſceptible of the variolous contagion; and another, where the ſmall-pox appeared obſcurely."

"THOMAS PEARCE is the ſon of a ſmith and farrier near to this place. He never had the cow-pox; but, in conſequence of dreſſing horſes with *ſore heels* at his father's, when a lad, he had ſores on his fingers which ſuppurated, and which occaſioned a pretty ſevere indiſpoſition. Six years afterwards I inſerted variolous matter into his arm repeatedly, without being able to produce any thing more than ſlight inflammation, which appeared very ſoon after the matter was applied, and

afterwards I expoſed him to the contagion of the ſmall-pox with as little effect."

"Mr. JAMES COLE, a farmer in this pariſh, had a diſeaſe from the *ſame ſource* as related in the preceding caſe, and ſome years after was inoculated with variolous matter. He had a little pain in the axilla, and felt a ſlight indiſpoſition for three or four hours. A few eruptions ſhewed themſelves on the forehead, but they very ſoon diſappeared without advancing to maturation."

"It is a remarkable fact, and well known to many, that we are frequently foiled in our endeavours to communicate the ſmall-pox by inoculation to blackſmiths, who in the country are farriers. They often, as in the above inſtance, either reſiſt the contagion entirely, or have the diſeaſe anomalouſly. Shall we not be able *now* to account for this on ſome rational principle?"

"I fear it would be treſpaſſing too far on the patience of my readers to adduce the *general teſtimony* of our farmers in ſupport of this opinion; yet I beg leave to introduce an extract of a letter on this ſubject from the Rev. Mr. Moore, of Chalford Hill, in this county."

"In the month of November, 1797, my horſe had diſeaſed heels, which was certainly termed the *greaſe*; and at a ſhort ſubſequent period my cow was alſo affected with what a neighbouring farmer (who was converſant with the complaints of cattle) pronounced to be the *cow-pox*, which he at the

ſame

ſame time obſerved my ſervant would be infected with: and this proved to be the caſe; for he had eruptions on his hands, face, and many parts of the body, the puſtules appearing large, and not much unlike the ſmall-pox, for which he had been inoculated a year and a half before, and had then a very heavy burthen. The puſtules on the face might ariſe from contact with his hands, as he had a habit of rubbing his forehead, where the ſores were the largeſt and thickeſt."

"The boy aſſociated with the farmer's ſons during the continuance of the diſeaſe, neither of whom had had the ſmall-pox, but they felt no ill effects whatever. He was not much indiſpoſed, as the diſeaſe did not prevent him from following his occupations as uſual. No other perſon attended the horſe or milked the cow, but the lad above mentioned. I am firmly of opinion that the diſeaſe in the heels of the horſe, which was a *virulent greaſe*, was the cauſe of the ſervant's and the cow's malady."

"The origin of the cow-pox," ſays Mr. RING, the very able advocate of Dr. Jenner, in a letter he publiſhed in the London Medical Review, "is *now* clearly aſcertained. Dr. Jenner lately ſent me ſome matter which Mr. TANNER, of Rockhampton in Glouceſterſhire, produced by inoculating a cow from *the heel of a horſe*; and alſo from the dairy-maid who milked the cow. The former, being taken at a very late period of the diſeaſe, failed; but the

latter took place, and the *true vaccine puſtule* has been excited by it four or five times ſucceſſively."

"When Dr. MARSHALL, of Stonehouſe, was conſulted about the dairy-maid of a farmer in his neighbourhood, he perceived four or five puſtules on the back of her hand. Upon inquiry, it was found that the cow-pox was in the farm; and that the farmer's ſon, one morning when he had been dreſſing *the heels of a horſe*, milked the cow in which the diſeaſe afterwards broke out, becauſe ſhe was too unmanageable for the milk-maid."

"Mr. RANKIN, an eminent ſurgeon, of Eaſtbourn, lately ſent me a caſe of a diſeaſe, occaſioned by matter from *the horſe's heel*, greatly reſembling the cow-pox; and I am informed by good authority, that Sir Chriſtopher Pegge is poſſeſſed of evidence, to prove the truth of the opinion advanced by Dr. Jenner."

In the Medical Journal for November, we have the pleaſure, as hinted above, to find a letter from Sir CHRISTOPHER PEGGE, the learned reader on anatomy in the univerſity of Oxford, concerning the origin of the vaccine virus.

In this letter Sir Chriſtopher Pegge relates a ſeries of facts, tending to eſtabliſh Dr. Jenner's opinion, that the cow-pox is originally produced by the matter of *greaſe*. Theſe facts were communicated to Sir Chriſtopher Pegge by Mr. Lupton, ſurgeon, of Thame.

Sir Chriſtopher Pegge ſays, "the attention of Mr.

Mr. LUPTON was firſt drawn to the preſent ſubject in March laſt; when the ſon of Mr. WRAY, farmer, of Ichford, applied to him on account of a complaint in his hand, attended with ulcerations very much reſembling the cow-pox. There was evidently a very great derangement of the ſyſtem, and the ſymptoms plainly indicated an abſorption of the morbid matter; as the caſe was alſo attended with conſiderable ſwelling of the hand and arm, an enlargement of the axillary glands, rigors, pain in the head and back, together with a greatly increaſed quickneſs of the circulation."

" He could only account for theſe complaints, from his having waſhed *the ulcerated heels of a horſe*; having had no previous communication with the cows."

" Theſe circumſtances led Mr. LUPTON to conceive, that there might be a diſeaſe incident to the horſe, analogous to the cow-pox, and communicable to the cow; and, upon repeated inquiry, he was ſatisfied, that it was not the common greaſe to which horſes are liable, that had produced the above effects."

" Mr. Lupton was ſo good as to communicate this information to me at the time; treating it as a matter of curioſity rather than of *ſerious* inveſtigation; and I heard no more of him on this ſubject, till the 8th of April, when I received the following letter:"

" Dear

"Dear Sir,

"Since my laſt letter reſpecting Mr. WRAY's ſon, I have had another caſe of infection communicated to the human ſubject; owing to matter abſorbed from the *ulcerated heels of a horſe*. The perſon is RICHARD HUNT, a ſervant of Mr. Randolph, of Thame-Park Farm; whoſe firſt ſymptoms were ſtiffneſs and uneaſineſs of the arm, ſwelling of the axillary glands, ſucceeded by puſtules on the hand, and a very painful ſuppuration of the middle finger; which had that blue appearance deſcribed by Dr. Jenner, as indicating the *true vaccine diſeaſe*. Theſe were accompanied with rigors frequently recurring, attended with great heat, anxiety, giddineſs, pain in the head and back, ſickneſs and vomiting."

"Such were the appearances when I firſt ſaw him, which was on Sunday, March 30. On the 31ſt, he had a very bad night, and had been ſlightly delirious; the other arm growing ſtiff and painful. April 1ſt, he was much better in every reſpect, except the painful ſtate of the finger, and the inflammation of the hand and arm. The courſe of the lymphatics was at this time beautifully marked with ſtreaks of a vivid red colour, extending from the wriſt to the axilla. April 2d, he continued better. April 3d, he had a bad night, from the pain of the finger. A puncture was now made, and about two tea-ſpoonfuls of a dark brown coloured fluid were diſcharged."

"April

" April 4th, the cuticle was removed; and diſcovered a ſhining red ulcerated ſurface, in the middle of which was a ſpot of a ſloughy appearance, of the ſize of a ſilver penny. This was covered with the red nitrate of quickſilver. The inflammation, pain, and ſwelling of the hand and arm, were now conſiderably abated; and in other reſpects he was much relieved. April 6th, the finger was much better: the puſtules of the hand had a *dark-coloured depreſſion in the centre, ſurrounded with an elevated margin of matter.* From this time he had no complaint. It muſt be particularly remarked, that this man has not milked any cow ſince laſt Michaelmas."

We are then informed, " that on the 9th of April, JOHN WATSON, another ſervant of Mr. Randolph, applied to Mr. Lupton, with ſymptoms ſimilar to thoſe of the former; in conſequence of having aſſiſted Hunt in dreſſing *the heels of the horſe.* WATSON was employed in milking the cows. Previous to the appearance of ulceration on his hands, the cows had been infected more than a week; and there can be no doubt that the cows had received infection from the horſe, through the medium of this man."

" Whether the ulceration in his hands was the immediate effect of matter received from the heels of the horſe, or of that which had undergone a modification in the teats of the cow," Sir Chriſtopher PEGGE obſerves, " it is not eaſy to decide; but he has

has no doubt that the virus was conveyed by this man from the heels of the horſe to the teats of the cow."

On the 18th of May Sir Chriſtopher PEGGE happened to be at Thame, and was informed by Mr. Lupton, "that a *third* ſervant of Mr. Randolph was affected in a ſimilar manner; and it was evident he had received the infection *from the cows*; as he had never aſſiſted in dreſſing the heels of the horſe. The diſorder from which this virus originates, we are told by Sir Chriſtopher Pegge, is termed by farriers a ſcratchy heel; and conſidered as widely different from common greaſe."

From the laſt of theſe men, Mr. Lupton inoculated ſeveral children; whom Sir Chriſtopher Pegge ſaw on the eighth day after inoculation, with the moſt decided appearance of *true cow-pox* upon them. "This appearance (he ſays) he could not miſtake, after having witneſſed ſo many inſtances of it at his friend's, (Mr. FERMOR's) of Tuſmore; whoſe benevolent and diſintereſted exertions have contributed ſo largely to the ſtock of facts in ſupport of a diſcovery which promiſes to be of the greateſt benefit to mankind."

"In all the children who were inoculated with this matter, the diſeaſe terminated favourably; and as neither of them has had the ſmall-pox, Mr. Lupton inoculated them with variolous matter, but *without effect*."

As the *origin* of the cow-pox appears to be of

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the utmoſt importance, as *the greaſe* of the horſe can produce the cow-pox at pleaſure, or, if not the cow-pox, might itſelf be uſed as a ſubſtitute for it; I ſhall beg leave to treſpaſs a little longer on my readers, and adduce a freſh authority of conſiderable weight.

A young man, a butcher at Middleton near Pickering in Yorkſhire, applied to Dr. Loy on account of painful ſores on both hands.

Theſe ſhewed a ſurrounding inflammation, and formed themſelves into veſicles.

A tumour aroſe alſo under the arm-pits, which ſoon after diſperſed.

A conſiderable degree of fever accompanied for a time the diſeaſe.

The patient could not account for it otherwiſe than from applying remedies to the heels of a horſe affected with the *greaſe*.

Two experiments with different cows were immediately commenced.

Experiment I.

In the *one* the fluid limpid matter immediately iſſuing from the greaſe of the horſe was inſerted into the teat of a cow.

On the *fifth* day the wound appeared rather elevated, and a faintiſh redneſs ſucceeded.

In a few days a veſicle formed containing a large quantity

quantity of watery fluid, of a purple tinge, as in the cow-pox.

Experiment II.

In the *other* cow, the matter was taken from the hand of the patient mentioned above, and inſerted into the udder.

On the *ninth* day there preſented itſelf a veſicle ſurrounded by a roſe-coloured rim.

The udder to a conſiderable extent was hard and painful, ſo that the animal would hardly ſuffer it to be handled.

The veſication continued to ſpread for ſeveral days, until it ſcabbed, and healed without any remedy.

Experiments III. & IV.

From *both theſe cows* on the *ninth day* matter was taken, and inſerted into the arms of two different patients.

The progreſs of the inoculation was cloſely watched, and the veſication, inflammation, and ſcabbing, was found *exactly* to correſpond with the appearances preſented by a mild inoculated cow-pox.

Both theſe children were afterwards plentifully inoculated with the ſmall-pox virus, *but without producing the diſeaſe.*

Experiment

Experiment V.

Dr. Loy's next experiment was with the fluid of the greaſe itſelf not modified by being ingrafted in the cow.

On the *third* day after the inſertion a ſmall inflammation ſurrounded the inciſion.

On the *fourth* the inoculated part was much elevated, and a veſicle, of a purple colour, was completed on the *fifth*.

On the *ſixth* and *ſeventh* the veſicle increaſed, and the inflammation extended, and became of a deeper colour.

Then aroſe the feveriſh ſymptoms, as heat, pain in the head, difficulty of breathing, quick pulſe, tongue white, thirſt, ſickneſs, vomiting, which continued from the *ſeventh* to the *ninth* day.

This patient was inoculated with the ſmall-pox virus, but without its producing the diſeaſe.

Experiment VI.

From this patient, but one remove from the horſe, on the ſixth day matter was taken, and five children were inoculated, which ſucceeded in each, and took on the character of the mild cow-pock.

On the *tenth* day they were each inoculated with the ſmall-pox, but nothing appeared from the inſertion of the variolous matter, except a very ſmall degree

degree of inflammation, which vaniſhed on the fifth day *.

2. Dr. JENNER *diſtinguiſhes the ſpurious from the real* cow-pox.

"In the courſe of the inveſtigation of this ſubject," ſays this accurate Examiner into nature, "which, like all others of a complex and intricate nature, preſented many difficulties, I found that ſome of thoſe *who ſeemed to have undergone the cow-pox*, nevertheleſs, on inoculation with the ſmall-pox, felt its influence juſt the ſame as if no diſeaſe had been communicated to them from the cow. This occurrence led me to inquire among the medical practitioners in the country around me, who all agreed in this ſentiment, that the cow-pox was not to be relied upon as a *certain* preventive of the ſmall-pox. This for awhile damped, but did not extinguiſh, my ardour; for, as I proceeded, I had the ſatisfaction to learn that the cow was ſubject to ſome varieties of ſpontaneous eruptions upon her teats; that they were all capable of communicating ſores to the hands of the milkers; and that whatever ſore was derived from the animal, was called in the dairy the cow-pox. Thus I ſurmounted a great

* Vide "*An Account of ſome experiments on the origin of the Cow-pox by* JOHN LOY, M. D." A very ingenious pamphlet, which we would recommend to the careful peruſal of thoſe who wiſh to make experiments on this ſubject; as *the greaſe*, from other trials, is proved in the ſame book incapable, in every inſtance, of producing the diſeaſe required.

obſtacle, and, in conſequence, was led to form a diſtinction between theſe diſeaſes, one of which only I have denominated the *true*, the others the *ſpurious* *, cow-pox, as the latter poſſeſs no ſpecific power of guarding the conſtitution."

"This impediment to my progreſs was not long removed, before another, of far greater magnitude in its appearance, ſtarted up. There were not wanting inſtances to prove, that when the *true* cow-pox broke out among the cattle at a dairy, a perſon who had milked an infected animal, and had thereby apparently gone through the diſeaſe in common

* One of the chief objects, then, of our purſuit, as I have obſerved, ſhould be, to learn how to *diſtinguiſh* with accuracy between that peculiar puſtule which is the *true* cow-pock, and that which is *ſpurious*. Until experience has determined this, we view our object through a miſt. Let us for inſtance ſuppoſe, that the ſmall-pox and the chicken-pox were at the ſame time to ſpread among the inhabitants of a country which had never been viſited by either of theſe diſtempers, and where they were quite unknown before; what confuſion would ariſe! The *reſemblance* between the ſymptoms of the eruptive fever and between the puſtules in either caſe would be ſo ſtriking, that a patient, who had gone through the chicken-pox to any extent, would feel equally eaſy with regard to his future ſecurity from the ſmall-pox, as the perſon who had actually paſſed through that diſeaſe.—As far as I could learn, the *ſpurious* puſtules are of a much milder nature than thoſe which ariſe from that contagion which conſtitutes the *true* cow-pox. They are always free from the *bluiſh* or *livid* tint, ſo conſpicuous in the puſtules of that diſeaſe. No eryſipelas attends them, nor do they ſhew any phagedenic diſpoſition as in the other caſe; but *quickly terminate in a ſcab*, without creating any apparent diſorder in the cow. JENNER.

with others, was liable to receive the ſmall-pox afterwards. This, like the former obſtacle, gave a painful check to my fond and aſpiring hopes: but reflecting that the operations of nature are generally uniform, and that it was not probable the human conſtitution (having undergone the cow-pox) ſhould in ſome inſtances be perfectly *ſhielded* from the ſmall-pox, and in many others remain *unprotected*, I reſumed my labours with redoubled ardour. The reſult was fortunate; for I now diſcovered that the virus of the cow-pox was liable to undergo *progreſſive changes* *; and that, when it was applied to the human ſkin in its degenerate ſtate, it would produce the ulcerative effects in as great a degree

* This obſervation will fully explain the *fertile ſource* of thoſe errors which have been committed by many inoculators of the cow-pox. Conceiving the whole proceſs to be ſo extremely ſimple, as not to admit of a miſtake, they have been heedleſs about the *ſtate* of the vaccine virus; and finding it limpid, as part of it will be, even in *an advanced ſtage* of the puſtule, when the greater portion has been converted into ſcab, they have felt an improper confidence, and ſometimes miſtaken a *ſpurious puſtule*, which the vaccine fluid in this ſtate is capable of exciting, for that which poſſeſſes the perfect character. After the *ninth* day it is uncertain, whether the *genuine* cow-pock will be produced. Another ſource of the *ſpurious* diſeaſe has ariſen alſo from the *true early* matter of the cow-pock being taken on a lancet; this has corroded the iron, and the matter then will only produce a *common ulcerating ſore*, having none of the *genuine* characters of the cow-pock.—Holding the matter before the fire to dry it will immediately take away its ſpecific virtue. The heat of the body has produced the ſame effect. JENNER.

as

as when it was not decompoſed, and ſometimes far greater; but, having loſt *its ſpecific properties*, it was incapable of producing that change upon the human frame which is requiſite to render it unſuſceptible of the variolous contagion: ſo that it became evident a perſon might milk a cow *one day*, and, having caught the diſeaſe, be for ever ſecure; while another perſon, milking the ſame cow the *next day*, might feel the influence of the virus in ſuch a way as to produce a ſore or ſores, and in conſequence of this might experience an indiſpoſition to a conſiderable extent; yet, as has been obſerved, the *ſpecific* quality being loſt, the conſtitution would receive no change ſo as to render it ſecure from the ſmall-pox."

3. Dr. JENNER *firſt attempts the regular* inoculation *of the* cow-pox.

"During the inveſtigation of the caſual cow-pox, I was ſtruck," continues the great Dr. JENNER, "with the idea that it might be practicable to propagate the diſeaſe by *inoculation*, after the manner of the ſmall-pox, firſt from the cow, and finally from one human being to another. I anxiouſly waited ſome time for an opportunity of putting this theory to the teſt. At length the period arrived."

CASE I.

The firſt experiment was made upon a lad of the name of PHIPPS, in whoſe arm a little vaccine virus

was inſerted, taken from a puſtule on the hand of a dairymaid * who was infected by her maſter's cows, and it was inſerted on the 14th of May, 1796, by means of two ſuperficial inciſions, barely penetrating the cutis. By the *fourth* day a puſtule † appeared. On the *ſeventh* he complained of uneaſineſs in the axilla, and on the *ninth* he became a little chilly, loſt his appetite, and had a ſlight head-ache. During the whole of this day he was perceptibly indiſpoſed, and ſpent the night with ſome degree of reſtleſſneſs, but on the day following he was *perfectly well.*

The appearance of the inciſions in their progreſs to a ſtate of maturation were much the ſame as when produced in a ſimilar manner by variolous matter. The only difference which I perceived was, in the ſtate of the *limpid fluid* ariſing from the action of the virus, which aſſumed rather a darker hue, and in that of the efflorescence ſpreading round the inciſions, which had more of an *erysipelatous look* than we commonly perceive when variolous matter has been made uſe of in the ſame manner; but the whole died away (leaving on the

* From the ſore on the hand of Sarah Nelmes.—See the preceding caſe and plate, page 28, of Jenner's Inquiry.

† This appearance was in a great meaſure new to me, and I ever ſhall recollect the pleaſing ſenſations it excited; as, from its ſimilarity to the puſtule produced by variolous inoculation, it inconteſtibly pointed out the cloſe connexion between the two diſeaſes, and almoſt anticipated the reſult of my future experiments. JENNER.

inoculated

inoculated parts *ſcabs* and ſubſequent *iſchars*) without giving me or my patient the leaſt trouble.

This caſe inſpired me with confidence; and, as ſoon as I could again furniſh myſelf with virus from the cow *, I made an arrangement for a ſeries of inoculations. A number of children were inoculated in ſucceſſion, one from the other; and after ſeveral months had elapſed, they were expoſed to the infection of the ſmall-pox; ſome by inoculation, others by variolous effluvia, and ſome in both ways; *but they all reſiſted it*, as will be ſhewn hereafter.

Case II.

William Summers, a child of five years and a half old, was inoculated the ſame day with Baker, with matter taken from the nipples of one of the infected cows, at the farm alluded to in note below.

He

* My reſearches were interrupted till the ſpring of the year 1797, when, from the wetneſs of the early part of the ſeaſon, many of the farmers' horſes in this neighbourhood were affected with *ſore heels* (the greaſe in its firſt ſtage) in conſequence of which the *cow-pox* broke out among ſeveral of our dairies, which afforded me an opportunity of making further obſervations upon this curious diſeaſe.

A mare, the property of a perſon who keeps a dairy in a neighbouring pariſh, began to have ſore heels the latter end of the month of February 1798, which were occaſionally waſhed by the ſervantmen of the farm, Thomas Virgoe, William Wherret, and William Haynes, who, in con-

He became indiſpoſed on the *ſixth* day, vomited once, and felt the uſual ſlight ſymptoms till the *eighth* day, when he appeared perfectly well.

Case III.

From William Summers the diſeaſe was transferred to William Pead, a boy of eight years old, who was inoculated March 28th.

On the *ſixth* day he complained of pain in the axilla, and on the *ſeventh* was affected with the common ſymptoms of a patient ſickening with the ſmall-pox from inoculation, which did not terminate till the *third day* after the ſeizure.

The *efflorescent bluſh* around the part punctured in the boy's arm was truly characteriſtic of that which appears on variolous inoculation.

Case IV.

April 5th, *ſeveral children* and *adults* were inoculated from the arm of William Pead.

ſequence, became affected with ſores in their hands, followed by inflamed lymphatic glands in the arms and axilla, ſhiverings ſucceeded by heat, laſſitude and general pains in the limbs. A ſingle paroxyſm terminated the diſeaſe; for within twenty four hours they were free from general indiſpoſition, nothing remaining but the ſores on their hands. Haynes was daily employed as one of the milkers at the farm, and the diſeaſe began to ſhew itſelf among *the cows* about ten days after he firſt aſſiſted in waſhing the mare's heels. Their nipples became ſore in the uſual way, with *bluiſh* puſtules. Jenner.

Hannah

HANNAH EXCELL, an healthy girl ſeven years old, and one of the patients abovementioned, received the infection from the inſertion of the virus under the cuticle of the arm in three diſtinct points *. The puſtules which aroſe in conſequence, ſo much reſembled, on the *ninth day*, thoſe appearing from the inſertion of variolous matter, that an experienced inoculator would ſcarcely have diſcovered a ſhade of difference at that period. Experience now tells me that almoſt the only variation which follows conſiſts in the puſtulous fluids remaining *limpid* nearly to the time of its total diſappearance; and not, as in the direct ſmall-pox, becoming *purulent*.

CASE V.

From this girl's arm matter was taken and transferred to that of J. BARGE, a boy of ſeven years old.

He ſickened on the *eighth* day, went through the diſeaſe with the *uſual ſlight ſymptoms*, and without any inflammation on the arm beyond the common effloreſcence ſurrounding the puſtule, an appearance ſo often ſeen in inoculated ſmall-pox.

* This was not done intentionally, but from the accidental touch of the point of the lancet, one puncture being always ſufficient. JENNER.

Proofs that theſe having had the cow-pock *were rendered inſuſceptible of the* ſmall-pox.

"In order to aſcertain whether my firſt patient PHIPPS, after feeling ſo ſlight an affection of the ſyſtem from the cow-pox virus, was ſecure from the contagion of the ſmall-pox, he was inoculated the 1ſt of July following with variolous matter, immediately taken from a puſtule."

"Several ſlight punctures and inciſions were made on both his arms, and the matter was carefully inſerted, *but no diſeaſe followed.*"

"The ſame appearances were obſervable on the arms as we commonly ſee when a patient has had variolous matter applied, after having either the cow-pox or the ſmall-pox."

"Several months afterwards he was again inoculated with variolous matter, but *no ſenſible effect was produced*"

"It did not appear neceſſary, nor was it convenient to me, to inoculate the whole of thoſe who had been the ſubjects of theſe late trials; yet I thought it right to ſee the effects of variolous matter on ſome of them, particularly WILLIAM SUMMERS, (vide Caſe III.) the firſt of theſe patients who had been infected with matter taken from the cow."

"He was therefore inoculated with variolous matter from a freſh puſtule; but, as in the preceding caſes, *the ſyſtem did not feel the effects of it in the ſmalleſt degree.*"

"I had

"I had an opportunity alſo of having BARGE (Caſe V.) and WILLIAM PEAD (Caſe III.) inoculated by my nephew, Mr. Henry Jenner, whoſe report to me is as follows: "I have inoculated PEAD and BARGE, two of the boys whom you lately infected with the cow-pox. On the *ſecond* day the inciſions were inflamed, and there was a pale inflammatory ſtain around them. On the *third* day theſe appearances were ſtill increaſing and their arms itched conſiderably. On the *fourth* day the inflammation was evidently ſubſiding, and on the *ſixth* it was ſcarcely perceptible. *No ſymptom of indiſpoſition followed.*"

"To convince myſelf that the variolous matter made uſe of was in a perfect ſtate, I at the ſame time inoculated a patient with ſome of it who had never gone through the cow-pox, and it produced the *ſmall-pox* in the uſual regular manner."

"Theſe experiments," ſays Dr. JENNER, "afforded me much ſatisfaction; they proved that the matter in paſſing from one human ſubject to another, through five gradations, loſt none of its original properties, J. BARGE being the *fifth* who received the infection ſucceſſively from WILLIAM SUMMERS, the boy to whom it was communicated from the cow."

Theſe caſes of vaccine inoculation, added to a more extended experience, led to the FOLLOWING CONCLUSIONS.

FIRST

FIRST CONCLUSION.

Thoſe who have had the cow-pox, *either naturally, or by inoculation, are ever after inſuſceptible of the* ſmall-pox.

Both theſe poſitions were before proved by Dr. JENNER, and indeed the natural and inoculated cow-pox reſemble each other ſo much, except in the parts * affected, that we ſhould be ſurpriſed, if they were found to differ in their properties. They therefore illuſtrate each other.

When inoculation of the *ſmall pox* was firſt introduced, there was a diſpute whether or not theſe two diſeaſes were one and the ſame. " In the firſt place," ſays the learned MEAD, " there are ſome, who inſiſt upon it, that the eruptions produced by inoculation are not the genuine ſmall-pox, and con-

* The author of this pamphlet has inoculated in the arms, legs, neck, fingers, and different parts of the body, without finding a material difference with reſpect to the diſeaſe. It is ſo uniformly mild, that the ſhades of difference from the parts infected ſeem unimportant. The leg in female infants has been, however, preferred, and in boys the lower part of the arm, as being parts fartheſt removed from the fountain of circulation, and hence leſs ſubject to active inflammation, the chief or only conſideration in this diſeaſe which is often unaccompanied with any conſtitutional affection.

ſequently

ſequently that they cannot ſecure any one from having the diſeaſe *hereafter* *. Moreover, they take pains to bring teſtimonies of patients, who, after having undergone the artificial diſtemper, have nevertheleſs been *afterwards* ſeized with the "true one." "Now," continues Mead, "I own, I cannot underſtand how contagion, that is, the very ſeed of the diſeaſe, ſhould produce, not its own proper diſtemper, but another of a quite different kind. Neither certainly does it matter, by which

* We had not been ſo diffuſe in this part, more than the ſubject indeed merits, unleſs the objection againſt the cow-pox had been frequently urged, "that it only ſecures *for a time*."

"In this *cow mania*," ſays my learned friend Dr. MOSELEY, (who, it is to *me* moſt extraordinary ſhould have been the *firſt* to conceive and propagate the moſt glaring errors reſpecting vaccine inoculation), "it is not," ſays this προφήτης κακῶν, "enough for reaſon to conclude, that the cow-pox may leſſen *for a time* the diſpoſition of the habit to receive the infection of the ſmall-pox. All cutaneous determinations, catarrhal fevers, and every diſeaſe of the lymphatics, and medicines tending to what Sydenham would call depurating the ſyſtem, *do the ſame*." Again, "Who can foretell what miſery, from this cauſe, may not be brought on a family after *many years* of IMAGINARY SECURITY!"—Such, with more weight, were the arguments, as we ſee, urged againſt *variolous* inoculation at its *introduction*, which apply certainly much leſs to the cow-pox, as this diſeaſe is only taken by contact of the virus with an abraded cuticle, and therefore is, in fact, an *inoculation*; and Dr. JENNER with others have given us *certain* proofs of SIXTY-THREE YEARS *ſecurity* ariſing from the *natural*, or *caſual*, *cow-pox*.

way the infection is received, provided it brings forth manifeſt marks of the diſeaſe. And as to thoſe, who, after having been inoculated with ſucceſs, are, notwithſtanding this, ſaid to have ſuffered the ſmall-pox; I muſt proteſt, that, after the moſt diligent inquiry, I have not been able to find out one convincing proof of this kind. I very well know, that *a ſtory* is ſpread abroad, particularly by a late author, of a boy, upon whom, about three years after he had contracted the diſeaſe by inoculation, it broke out again. But I am well aſſured, that this narration is of doubtful credit; and that there were ſome of the family who affirmed, that no ſmall-pox appeared upon the inoculation; that the parents (as we eaſily believe what we wiſh) and that the byeſtanders did not care to take away from them this pleaſing miſtake."

"But, to ſpeak plainly, if ſuch a thing happened once, why do we not ſee it come to paſs oftener? Or what can a ſingle example, ſuppoſing it to be true and certain, avail, when innumerable experiments have produced nothing like it? However, ſome men are infected with an incurable itch of writing, and take great pleaſure in contradicting others, to whom they bear envy. Let us therefore give them leave to applaud themſelves, and enjoy their own vain glory."

SECOND

SECOND CONCLUSION.

Thoſe who are labouring under the natural, or inoculated cow-pox, *cannot communicate this diſeaſe by* contagion.

The only admiſſion of the *cow-pox* is by actual meeting of the vaccine fluid with an abraded ſurface, as ſome ſore, ſcratch, chop, or crack of the cuticle; for the ſound fleſh, and likewiſe the breath, denies an avenue to this glorious *antidote*, the true *Mithridate*, of one of the moſt tremendous of the animal poiſons, which has laws *peculiar* to itſelf, little known, and deſerving attention.

When the *ſmall-pox* invades a village or town, terror and diſmay are ſpread in every direction. Suppoſing the air to be infected, ſome people carry their fears ſo far that they will not come even within a mile of the infected place; and to paſs the door of the houſe where the ſmall-pox is contained would be eſteemed an act of the greateſt hardihood. In order that we may know how far our fears are grounded, we muſt have recourſe to experiments actually made by inquiring phyſicians.

"Having tried many fruitleſs experiments, I concluded," ſays Dr. O'Ryan, "that the children, the objects of them, could not have eſcaped infection, but becauſe the variolous matter had loſt that ſpring, and that degree of energy, which, perhaps,

it

it may poſſeſs on ariſing immediately from the human body, I therefore placed a perſon, in the eruptive fever of the ſmall-pox by inoculation, at the diſtance of about half a yard from four children properly prepared; each expoſure continued one hour, and was repeated daily for a fortnight, reckoning from the commencement of the fever till the puſtules were become perfectly dry: not one of the four received the infection. Two months afterwards I inoculated three of theſe children: they had the diſtemper in the uſual mild manner, and recovered without difficulty."

"I can," ſays Dr. Currie, "bring many facts, to prove that the contagion has ſpread a very little way into the atmoſphere in ſituations where many patients have been confined together, and conſequently the quantity of effluvia greatly multiplied. Theſe are chiefly from the accounts of our Guinea voyages, in which the ſmall-pox uſed formerly to make, at times, dreadful havoc among the ſlaves. The practice, however, of late years has been, immediately on the appearance of the caſual diſeaſe on ſhipboard, to inoculate the whole cargo; and nothing can ſpeak more forcibly the ſafety of inoculation, than the complete ſucceſs with which it has generally been attended on perſons of all ages, entirely unprepared, and under circumſtances every way unfavourable. As, however, a general inoculation, under ſuch circumſtances, is always followed by unpleaſant, and ſometimes by deſtructive conſequences,

ſequences, it is not now uncommon to ſeparate the diſeaſed perſons, and to truſt to means of prevention for the ſafety of the reſt. Theſe frequently, perhaps, I might ſay generally, ſucceed, provided the voyage is performed with light and favourable winds, which is neceſſary to enable them to make the ſeparation complete. An inſtance of this has juſt occurred in a Guineaman, called the *Golden Age*. Soon after ſhe left the coaſt of Africa the ſmall-pox appeared, and, before the diſeaſe was known, eight perſons were affected; the whole were immediately brought on deck, their apartments waſhed and ventilated with the greateſt care, and the eight perſons ill were placed in the main-top about twenty feet from the deck, where they regularly paſſed through the diſeaſe. Before coming down, they were waſhed, the contagion was extinguiſhed, and the whole cargo, as well as crew, arrived in perfect health in the Weſt Indies. During all this time, the ſlaves, as is uſual, paſſed the day near them; but, though all were ſuppoſed liable to the diſeaſe, not one of two hundred and upwards thus expoſed received the infection. My friend Mr. Beg, formerly ſurgeon, afterwards maſter, of a Guineaman, and now a conſiderable merchant here, informs me, that, in one of his voyages, he practiſed the ſame method of ſtopping the contagion of this diſeaſe, and with the ſame ſucceſs. He acquaints me alſo, that twice, when the ſmall-pox appeared among the ſlaves, while they were at anchor on the coaſt, he put the infected perſons in

a boat

a boat a-ſtern of the ſhip, and effectually ſecured the people on board from the contagion."

I relate theſe facts to ſhew how far the power of our worſt enemy reaches, for, like a lion confined in a den, we may approach the railing to a certain diſtance with ſafety: but unfortunately the poiſon may be, and is often, put up in the clothes, and thus widely ſpreads its baneful influence around.

The *cow-pox* patient, on the contrary, may be approached, as near as we pleaſe, and the apparel does not imbibe one particle of infectious matter to propagate this diſtemper.

"Many inſtances," ſays Dr. Jenner, "have come under my obſervation, which juſtify the aſſertion that the diſeaſe cannot be propagated by effluvia. The firſt boy whom I inoculated with the matter of cow-pox, ſlept in a bed, while the experiment was going forward, with two children who never had gone through either that diſeaſe or the ſmall-pox, *without infecting either of them.*"

"A young woman who had the cow-pox to a great extent, ſeveral ſores which maturated having appeared on the hands and wriſts, ſlept in the ſame bed, with a fellow dairy-maid who never had been infected with either the cow-pox or the ſmall-pox, *but no indiſpoſition followed.*"

"Another inſtance has occurred of a young woman on whoſe hands were ſeveral large ſuppurations from the cow-pox, who was at the ſame time a daily nurſe to an infant, *but the complaint was not communicated to the child.*"

THIRD CONCLUSION.

None die of the Cow-pox *either taken naturally or from inoculation.*

The cow-pox *never kills, the natural and inoculated* ſmall-pox *not unfrequently.*—If the whole merit of the cauſe of *vaccine inoculation* depended on this ſingle point, it might reſt ſecure as the greateſt diſcovery ever made. *The cow-pox never deſtroys life!*—Glorious tidings!—Happy annunciation!—I who have loſt by *variolous inoculation* my firſt-born child; a boy, who, not alone in his parent's eye, but to all who knew him, promiſed the fulfilment of every wiſh, have a juſt right to exult in the preſent fortunate diſcovery of Dr. JENNER. How was his lovely form defaced, and what were his ſufferings, before death ſnatched him to an early tomb, has been drawn by me with a trembling hand, when I wrote my ſection on the ſymptoms and ravages of the ſmall-pox!—So faithful is the portrait that I have often witneſſed tears to flow in abundance, when this ſection has been read by others, as bringing to recollection many a ſimilar diſtreſſing ſcene exhibited by ſome favourite child, or by ſome friend's or relation's child.—*My* tears are *now* wiped away, and may *theirs* be alſo, by the *pleaſing view* of the *preſent ameliorated condition of humanity!*

FOURTH CONCLUSION.

The Cow-pox *never disfigures the countenance.*

To all who have the refined ſentiment of taſte, and contemplate the human form as the maſter-piece of creative power, and acknowledge, that female charms are deſtined by the ALMIGHTY as the zeſt of otherwiſe a vapid exiſtence, muſt grant every praiſe to the *Jennerian diſcovery*, which is never known to disfigure (as does often the natural and inoculated ſmall-pox) "the human face divine."— Although external appearances are not of themſelves ſolely to be deſired, I aſk, where is the parent, who does not wiſh for her daughters to poſſeſs a pure unblemiſhed heart in an elegant and pleaſing perſon? For often at the very firſt glance the ſoul takes fire, and ſoon after joins in holy bands of wedlock, the two ſexes deſtined by PROVIDENCE to make each other happy. But, when the features are all changed, the noſe drawn inward, a ſpeck perhaps in both eyes, and horrid ſeams pervade the pallid cheek, the mind of ſenſibility revolts at the ruins of fair nature, and marriage is prevented unleſs for the ſake of ſordid pelf!— I ſhall here beg leave to make a quotation from Dr. Beddoes's

"*Hygeia.*"

" *Hygeia* *." " What impreſſion," ſays this ſagacious writer, " does not a ſallow unwholeſome complexion, *ſeams from the ſmall-pox*, ſcrophulous ſcars, and thoſe marks which debauchery is apt to ſtamp upon the face, make upon the ſpectator? Is he not in general diſpoſed to turn away in diſguſt from theſe appearances? or, if politeneſs forbid him to give way to his feelings, do they not riſe to a greater height for being ſuppreſſed?—And in what manner does the mind of thoſe who perceive themſelves to be objects of averſion react?—Inſtead of going for an anſwer to the theory, which explains how our habits are formed, I ſhall bring one of the moſt ſagacious of ſelf-obſervers to ſpeak for himſelf. The late profeſſor, J. George Busch, whoſe memory the city of Hamburgh is at this moment employed in honouring, tells of his having had the *ſmall-pox* at nine years old, and, though they were attended with no imminent danger, they left him *badly marked*. " I was afterwards informed," ſays this philoſopher, " that previouſly to this affliction I had a comely appearance. For myſelf, I had never attended to the point. But one thing I know well. After this time, I perceived that thoſe who viſited my parents, univerſally withheld from me that kindneſs of attention, which with

* " *Hygeia, or a ſeries of Eſſays on the means of avoiding habitual ſicklineſs, and premature mortality, on a plan entirely popular, by* Thomas Beddoes, M. D." A work admirably conceived, and likely to be productive of the greateſt benefit to the human race!

a child is the firſt motive to render himſelf agreeable, though they ſhewed it to my well-looking brothers and ſiſters, all the pranks that I, poor *pock-pitted* boy, to whoſe feet no dancing-maſter had given the right poſition, or drawn the head from between the ſhoulders, played in my vivacity, might indeed have been performed with an ill grace."

"This too, I ſhould obſerve, was the period when the chief art of education conſiſted in hard words and blows. On me reproaches rained from all quarters. When my parents, who alone treated me with any degree of ſenſe, carried me to Haarburg, my grandmother and a briſk grand-aunt ſo *maltreated* poor George, that my father and mother were extremely unwilling I ſhould repeat the viſit. In my grandfather's favour I ſtood all the higher, for he was ſtock-blind; ſo could not judge of me by my exterior."—From his ſubſequent hiſtory—particularly from the hypochondriacal complaint into which he afterwards fell—it ſhould ſeem that this man, wiſe and uſeful as he proved, never entirely recovered of the wound inflicted on his tender mind. What then can be hoped where fewer reſources exiſt, and fewer favourable circumſtances concur in riper years?

FIFTH CONCLUSION.

The Cow-pox *never deprives any one of ſight.*

There ſcarce needs a comment on the advantage of the *cow-pox* over the *ſmall-pox*, as here ſtated.

ſtated.—The bleſſing of viſion, ſo often deſtroyed by a *ſmall-pox puſtule* ſettling on the eye, is but too obvious to be much inſiſted on. How feelingly does MILTON deplore this loſs!

——— Thus with the year
Seaſons return; but *not to me returns*
Day, or the ſweet approach of ev'n or morn,
Or ſight of vernal bloom, or ſummer's roſe,
Or flocks, or herds, or human face divine;
But cloud inſtead, and ever-during dark,
Surrounds me,—from the cheerful ways of men
Cut off,—and for the book of knowledge fair
Preſented with an univerſal blank
Of nature's works, to me expung'd and raz'd,
And wiſdom at one entrance quite ſhut out.

SIXTH CONCLUSION.

The Cow-pox *does not leave any bad humours after it.*

The *ſmall-pox* has been juſtly accuſed of often leaving the body in that ſtate of wretched debility, as to make life afterwards only a continued ſeries of excruciating affliction. Beſides other horrid diſfigurations of the perſon, *ſcrophula*, or the king's-evil, not unfrequently follows the natural or inoculated ſmall-pox. The inſertion of the humour of a brute into the human body in *vulgar* conception led *à priori* to the expectation of a loathſome diſtemper. But fortunately for the human race a more benign diſeaſe than the *ſmall-pox* was the conſequence, and

one only ſimiliar to it, in having a ſomewhat reſembling puſtule *, and in the property, of ever after ſecuring from that fatal and loathſome diſtemper.

" Every practitioner in medicine," ſays Dr. Jenner, " who has extenſively inoculated with the *ſmall-pox*, or has attended many of thoſe who have had the diſtemper in the natural way, muſt acknowledge that he has frequently ſeen ſcrophulous affections, in ſome form or another, ſometimes rather quickly ſhewing themſelves after the recovery of the patients. Conceiving this fact to be admitted, as I preſume it muſt be by all who have carefully attended to the ſubject, may I not aſk, whether it does not appear probable that the general introduction of the ſmall-pox into Europe has not been among the leaſt conducive means in exciting that formidable foe to health? Having attentively watched the effects of the *cow-pox* in this reſpect, I am happy in being able to declare, that the diſeaſe does not appear to have the leaſt tendency to produce this deſtructive malady."

* In the *ſmall-pox* the inoculated puſtule is angulated, and numerous puſtules ſurround it; in the *cow-pox*, the puſtule has its edges regularly circumſcribed, and ſtands ſolitary; the *ſmall pox* puſtule contains firſt a fluid, then opaque matter, the *cow-pox* puſtule a gelatinous fluid, which never becomes converted into pus; the edges of the *one* is more elevated, in the *other* more depreſſed; the ſcab is alſo much darker and harder in the *cow-pox*. JENNER.

SEVENTH

SEVENTH CONCLUSION.

The Cow-pox *may be inoculated under all circumſtances.*

In our introductory remarks, when giving our reaſons why the inoculation with the *ſmall-pox* could not be made *general*, we enumerated, and explained the ground of thoſe *exceptions*, which have been juſtly made againſt *variolous inoculation*; as, *early infancy*, *time of teething*, *humours in the body*, *pregnancy*, *and old age*; *the danger of ſpreading the natural diſeaſe*,&c.—NOW NONE OF THESE OBJECTIONS apply to *vaccine inoculation*. Experience hath taught that it may be employed in all *ſeaſons*, and under *every circumſtance*, even the moſt *adverſe* to the *ſmall-pox inoculation*.

1. *Early infancy*.—Dr. JENNER relates, "that he cauſed an infant, but twenty hours old, to be inoculated for the cow-pox by his nephew HENRY JENNER; and this little ſtranger, ſo newly uſhered into life, felt but a very ſlight diſeaſe; and, being afterwards inoculated for the ſmall-pox, and expoſed to its contagion, *reſiſted* all attempts to communicate the ſmall-pox."

2. *Time of teething*.—We may adduce here the authority of Dr. DENMAN, one of the moſt eminent

accoucheurs in London, in confirmation of the experience of Dr. JENNER. "It became now the duty," ſays Dr. DENMAN, writing in the Phyſical Journal for April 1800, "of medical men, eſpecially of thoſe who are much engaged in the practice of inoculating for the ſmall-pox, or who are much conſulted in *infantile diſeaſes*, to declare their experience about vaccine inoculation, and examine into it with the greateſt poſſible care. For my own part, I can affirm, that I have ſeen inoculated with the cow-pox through my ſon-in-law, Mr. CROFT, a great many children *at all ages*, and they went through the diſeaſe without the leaſt ſign of danger, and even without much fever or indiſpoſition."

3. *Humours in the body, and other diſeaſes.*—As *ſcrophula* does not appear to be called into action by the cow-pox (vide Sixth Concluſion, p. 133.); but, on the contrary, there are caſes where this cruel diſorder has been found to be not only mitigated by vaccine inoculation, but alſo wholly removed, the dread of the ſubject being *humoury* is unimportant. Fat and lean children do equally well.—In my experience at Lowther the reader will find a caſe of *tinia capitis*, which was not at all increaſed under inoculation. Dr. Pearſon has recorded two caſes of *pſora* (itch), which, being unknown to me at the time, were inoculated; and from the puſtule, which was broken, vaccine matter was conveyed to different parts of the body, producing a very ſevere diſeaſe, which appeared

appeared *puſtular* ſolely from this cauſe. The pſora, therefore, muſt be allowed to be a ground of excluſion to this, or any other inoculation: the only exception I am at preſent acquainted with.

" More than a thouſand ſubjects," ſays Mr. Dunning, ſurgeon at Plymouth Dock, " have been *vaccinated* in this neighbourhood during the laſt year. Some hundreds of them have fallen to my ſhare. Complete ſucceſs has been invariable in every caſe, where the vaccine character has been unequivocally expreſſed. With a very few exceptions, the indiſpoſition has been none at all, or the leaſt imaginable, and I know of no ſhade of accident that can fairly be attributed to the new practice. In one child a very general and obſtinate cutaneous complaint, which had previouſly reſiſted much external and internal medicine, very ſoon *diſappeared* after vaccination. *Health* and *firmneſs* have ſhortly ſucceeded it in ſeveral weakly children, under my own obſervation, and I have heard of many ſimilar occurrences; this has ſo *often* and ſo *ſtrikingly happened*, that it has more than once been propoſed to me to vaccinate *ſickly* children."

Beſides *humours* which militate againſt the ſmall-pox inoculation, *there are variety of diſeaſes*, which, if they attack at the ſame time the child labouring under the *ſmall-pox*, or ſoon after, uſually prove fatal: a combination, however, not found to become aggravated by, or increaſe, the *cow-pox*.

" Miſs R—,

"Miſs R——, a young lady about five years old, was ſeized, on the evening of the eighth day after inoculation with vaccine virus, with ſuch ſymptoms as commonly denote the acceſſion of violent fever. Her throat was alſo a little ſore, and there were ſome uneaſy ſenſations about the muſcles of the neck. The day following a raſh was perceptible on her face and neck, ſo much reſembling the efflo-reſcence of the *ſcarlatina anginoſa*, that I was induced to aſk whether Miſs R—— had been expoſed to the contagion of that diſeaſe. An anſwer in the affirmative, and the rapid ſpreading of the redneſs over the ſkin, at once relieved me from much anxiety reſpecting the nature of the malady, which went through its courſe in the ordinary way, but not without ſymptoms which were alarming, both to myſelf and Mr. Lyford, who attended with me. There was no apparent deviation in the ordinary progreſs of the puſtule to a ſtate of maturity, from what we ſee in general; yet there was a total ſuſ-penſion of the *areola*, or florid diſcolouration around it, until the *ſcarlatina* had retired from the conſti-tution. As ſoon as the patient was freed from this diſeaſe, this appearance advanced in the uſual way."

"The caſe of Miſs H—— R—— is not leſs in-tereſting than that of her ſiſter above related. She was expoſed to the contagion of the *ſcarlatina* at the ſame time, and ſickened almoſt at the ſame hour. The ſymptoms continued ſevere about twelve hours, when the ſcarlatine raſh ſhewed itſelf faintly

faintly upon her face, and partly upon her neck. After remaining two or three hours it ſuddenly diſappeared, and ſhe became perfectly free from every complaint. My ſurpriſe at this ſudden tranſition from extreme ſickneſs to health, in great meaſure ceaſed, when I obſerved that the inoculated puſtule had occaſioned, in this caſe, the common effloreſcent appearance around it, and that as it approached the centre, it was nearly in an eryſipelatous ſtate. But the moſt remarkable part of this hiſtory is, that, on the fourth day afterwards, as the effloreſcence began to die away upon the arm, and the puſtule to dry up, the *ſcarlatina* again appeared, her throat became ſore, the raſh ſpread all over her. She went fairly through the diſeaſe, with its common ſymptoms."

" That theſe were actually caſes of *ſcarlatina* was rendered certain by two ſervants in the family falling ill at the ſame time with the diſtemper, who had been expoſed to the infection with the young ladies *."

I had a ſimilar caſe of ſcarlet fever and cow-pox in the child of Mr. White, coachman, Adams Mews. The effloreſcent areola was arreſted, but became viſible after the ſcarlet fever ceaſed.

" I have met with," ſays Mr. Ring, " three caſes of the co-exiſtence of cow-pox and meaſles within the laſt ſix months. The firſt was in the child of Mr. Shepherd, in Phœnix-yard, Oxford-ſtreet. The

* From Jenner's Inquiry.

ſecond

ſecond was the child of ——— Hardey, No. 45, Peter-ſtreet, Weſtminſter. This caſe I ſhewed to Dr. Jenner and his friend Dr. Marſhall of Glouceſterſhire. It was alſo ſeen by Mr. Miſſiter. The third caſe was in the child of —— Groom, World's-end-paſſage, Newington-cauſeway."

" Mr. H. Jenner lately met with a ſimilar caſe.— In theſe different inſtances, the periods of the reſpective eruptions were various. In the firſt that occurred to me, the meaſles appeared on the ſecond day, and went through their regular courſe; yet in no degree retarded the progreſs of the vaccine puſtule. In the ſecond inſtance the meaſles appeared on the eighth day; and in the third inſtance on the fourth day; yet neither diſtemper interrupted the other. In the caſe which occurred to Mr. H. Jenner, the meaſles appeared the eighth day, without checking the progreſs of the puſtule. In thoſe caſes which I have ſeen, the areola ſurrounding the puſtule was perfect. This was alſo remarked by Dr. Jenner, in the caſe which I ſhewed him. Dr. Marſhall aſſured me, that nothing but ocular demonſtration of ſuch a caſe, could have convinced him of the poſſibility of its exiſtence."

" I have had," ſays Dr. Jenner, " an opportunity of trying the effects of the cow-pox matter on a boy who, the day preceding its inſertion, ſickened with the meaſles. The eruption of the meaſles, attended with cough, a little pain in the cheſt, and the uſual ſymptoms accompanying that diſeaſe, appeared

peared on the third day, and ſpread all over him. The diſeaſe went through its courſe without any deviation from its uſual habits; and, notwithſtanding this, the cow-pox virus excited its common appearances, both on the arm and on the conſtitution, without any ſenſible interruption; on the ſixth day there was a veſicle.

"8th. Pain in the axilla, chilly, and affected with head-ache.

"9th. Nearly well.

"12th. The puſtule ſpread to the ſize of a large ſplit pea, but without any ſurrounding efflorescence. It ſoon afterwards ſcabbed, and the boy recovered his general health rapidly. But it ſhould be obſerved, that, before it ſcabbed, the efflorescence, which had ſuffered a temporary ſuſpenſion, advanced in the uſual manner.

"Here we ſee a deviation from the ordinary habits of the ſmall-pox; as it has been obſerved, that the preſence of the meaſles ſuſpends the action of variolous matter. However, the ſuſpenſion of the efflorescence is worthy of obſervation."

"A caſe of co-exiſtence of the cow-pox and the chicken-pox, which occurred to Mr. Little of Plymouth, is publiſhed by Mr. Dunning in his Obſervations on Vaccination. In that caſe the chicken-pox appeared on the tenth day of vaccine inoculation. The vaccine puſtule was at that time arrived at its height of inflammation, and maintained its ſpecific character."

A moſt

A moſt remarkable caſe occurred to me. A girl, aged about nine, living with the Dowager the Counteſs of C——, fell from the baluſtrade of the ſtair-caſe, from the height of above 40 feet, and pitched on her ſkull on the ſtone landing-place. The fracture was extenſive, and the largeſt piece of bone ever remembered was taken away by Mr. Heaviſide, which is to be ſeen in his invaluable muſeum. A ſilver plate now defends the brain. This child was cautiouſly watched in order that ſhe might not catch the natural ſmall-pox; and Dr. Turton and Mr. Heaviside were juſtly apprehenſive of inoculation. Their good ſenſe at once, however, coincided that ſhe ſhould be inoculated by me with *vaccine matter*, and ſhe paſſed through the diſeaſe without one day's illneſs, with only the ſlight inconvenience of the puſtule on the arm.

4. *Pregnancy.*—"I have inoculated," ſays Dr. Marshall, "a great number of females at different periods of pregnancy, and never obſerved their caſes to differ in any reſpect from thoſe of my other patients. Indeed the diſeaſe is ſo mild, that it ſeems as if it might at all times be communicated with the moſt perfect ſafety *." The ſame ſucceſs is recorded by Henry Jenner, who relates

* From Jenner's Inquiry, p. 161. Second Edition.

a caſe,

a caſe, where he inoculated a perſon a week previous to the accouchment *.

5. *Old age* no exception.—For confirmation of the truth of his poſition, I ſhall give the Report of the Committee of Vaccine Inoculation † at Paris, inſtituted by order of government.

" Report. The vaccine affection appears to us to be of a nature the moſt benign, and which hardly deſerves to be called a malady; not ſo much as one accident occurred to the hundred and fifty ſubjects who have been inoculated."

" The vaccine inoculation is no leſs practicable than exempt from accidents, *whatever be the age of the perſons* on whom it is performed. Infants have been inoculated in the arms of their nurſes; others at the age of one, two, and three years to fifteen. Perſons of the age of forty, and even fifty to ſeventy years, have alſo been inoculated, and always with the ſame ſucceſs."

" Nineteen ſubjects, ſubmitting to the operation, have been inoculated with freſh pus, taken every time from a variolous infant preſent. The commit-

* Vide Jenner's Inquiry, p. 174.

† The moſt diſtinguiſhed phyſicians at Paris were ſelected for this purpoſe; as,

Thouret, Director of the School of Medicine.

Pinel, Profeſſor of Phyſic in the School of Medicine.

Leroux, Clinical Profeſſor.

Parfait, Inſpector of the Military Hoſpitals, &c. &c.

tee,

tee, for the purpoſe of rendering the experiments more deciſive, employed in many of the ſubjects very deep inciſions, ſuch as, according to the inoculations, neceſſarily occaſion puſtules. In fourteen the inciſions were ſoon obliterated without any ſymptom of complaint. In the remaining five the effect can be conſidered in no other light than as the effect of local irritation, produced by the puncture of the ſkin."

EIGHTH CONCLUSION.

The inoculated Cow-pox *does not hinder the patient from following his daily avocations.*

The ſeveral objections that are to be urged againſt the *ſmall-pox inoculation* have no force againſt the *cow-pox inoculation.* Theſe two diſeaſes, as experience proves, are, *toto cœlo*, different *, except in

* That this is the caſe is learnt from a full acquaintance with this important inveſtigation; and to effect this, we have been obliged to ſay a good deal on the ſmall-pox, and chiefly in appoſition, the one being as a foil to ſet forth the advantages of the other.—That theſe are different diſeaſes is proved from the following fact.—It is in vain you try to inoculate the cow with the *ſmall-pox.* No brute, as John Hunter aſcertained by repeated experiments, could be thus infected. But no ſooner is the vaccine matter, even taken from a human ſubject under vaccination, inſerted, than the *cow-pox* immediately ſucceeds, and this may be paſſed repeatedly from the one to the other.

the property of ſecuring from the ſmall-pox the perſon who has had either of the two. The *cow-pox* caught in the natural way proves ſometimes ſevere from the number of inoculated places in the hands (vide note, in page 147); but the inoculated cow-pox has one puſtule; hence this diſeaſe has oftener gone by the appellation of THE COW-POCK, than by the term *cow-pox*. Some writers call that the *cow-pox*, which is immediately derived from the cow; and the *cow-pock*, the inoculated diſeaſe.—Both terms have been indiſcriminately uſed by us to expreſs either diſeaſe, although the term *cow-pock* was adopted in the title, and in our humble eſtimation deſerves the preference.

The inoculated cow-pox being then only a local diſeaſe, and not accompanied with a fever to confine any one to bed, hence the cauſe of the ſtrong teſtimony of the brave commander of the Endymion, on board which ſhip Dr. Marſhall was, who declared, "that he would not fear to meet the enemy, with his whole crew, under vaccine inoculation."

4. *Dr.* JENNER *eſtabliſhes with the* method *of* inoculation, *the* medical treatment *when required.*

The mode of inoculation, as done by Dr. JENNER, is extremely ſimple. The lancet being held upright is made to puncture the puſtule on the ſixth, ſeventh, or eighth day. Soon there iſſues a globule of the aqueous cow-pock fluid, which keeps riſing

on the ſurface gradually. The point of the lancet held nearly horizontal is immerſed in this fluid, and in the ſame direction, without raiſing blood, inſerted between the cutis and the cutis vera, the two ſkins, and the lancet being withdrawn is wiped over the inoculated part *.

The cow-pock being a local diſeaſe, uſually without much conſtitutional affection, and this fever being the product of the local irritation produced †, there

* As the fluid of the *cow-pox* is a leſs active matter than that of the *ſmall-pox*, this inoculation is very apt to fail; and to perform the inſertion of the vaccine matter in that delicate manner I have witneſſed Dr. Jenner do it, requires both attention and practice. Children are alſo made with difficulty to remain quiet; and if blood is fetched, as it flows it is apt to carry out the inſerted virus. As a leſs frightful inſtrument of inoculation, and as producing the deſired effect with more certainty, I employ for children a common pin of a moderate ſize, and twirling it round horizontally, it penetrates without pain the two ſkins, even to ſome extent, and when drawn out leaves an opening devoid of blood. The pin being ſtruck with a hammer, and immerſed in the cow-pock fluid, is then introduced into the ſame aperture, and the matter is with eaſe lodged in the hollow. The cow-pock fluid is alſo depoſited at the orifice, and thus the inoculation is ſecured, without exciting the leaſt alarm. A moderate-ſized needle will ſerve equally the ſame purpoſe.

† As the caſes of inoculation multiply, I am more and more convinced of the extreme mildneſs of the ſymptoms ariſing merely from the primary action of the virus on the conſtitution, and that thoſe ſymptoms which (as in the accidental cow pox) affect the patient with ſeverity, are entirely ſecondary, *excited* by the irritating proceſſes of inflammation and

there is ſeldom required any medical attention, and that only as far as regards the puſtule.

"In the early part of this inquiry," ſays Dr. JENNER, "I felt far more anxious reſpecting the inflammation of the inoculated arm than at preſent; yet that this affection will go on to a greater extent than could be wiſhed, is a circumſtance ſometimes to be expected. As this can be *checked*, or even *entirely ſubdued* by very ſimple means, I ſee no reaſon why the patient ſhould feel an uneaſy moment, and in general an application may not be abſolutely neceſſary. About the tenth or eleventh day, if the puſtule has proceeded regularly, the appearance of the arm will almoſt to a certainty indicate whether this is to be expected or not. Should it happen, no-

and ulceration; and it appears to me that this ſingular virus poſſeſſes an irritating quality of a peculiar kind; but as a ſingle cow-pox puſtule is all that is neceſſary to render the variolous virus ineffectual, and as we poſſeſs the means of allaying the irritation, ſhould any ariſe, it becomes of little or no conſequence.

It appears then (as far as inference can be drawn from the preſent progreſs of cow-pox inoculation) that it is an accidental circumſtance only which can render this a *violent* diſeaſe, and a circumſtance of that nature, which fortunately it is in the power of almoſt every one to avoid. I allude to the communication of the diſeaſe from cows. In this caſe, ſhould the hands of the milker be affected with little accidental ſores to any extent, every ſore would become the *nidus* of infection, and feel the influence of the virus; and the degree of violence in the conſtitutional ſymptoms would be in proportion to the number and to the ſtate of theſe local affections. JENNER.

thing more need be done than to apply a ſingle drop of the *Aqua Lythargyr. Acetati* upon the puſtule, and having ſuffered it to remain two or three minutes, to cover the efflorescence ſurrounding the puſtule with a piece of linen dipped in the *Aqua Lythargyr. Compoſ.* The former may be repeated twice or thrice during the day; the latter as often as it may feel agreeable to the patient."

"When the ſcab is prematurely rubbed off, (a circumſtance not unfrequent among children and working people,) the application of a little *Aqua Lythargyri Acet.* to the part, immediately coagulates the ſurface, which ſupplies its place, and prevents a ſore."

"The *ſcepticiſm*," ſays Dr. JENNER, "that appeared even among the moſt enlightened of medical men, when my ſentiments on the important ſubject of the cow-pox were firſt promulgated, was highly *laudable* *. To have admitted the truth of a doctrine, at once ſo novel and ſo unlike any thing that had ever appeared in the annals of medicine,

* How remarkable this moderation! May we not *now* call *ſupineneſs* and *medical ſcepticiſm* a baſe dereliction of our duty, a crime againſt the ſtate, and againſt humanity?

without

without the teſt of the moſt rigid ſcrutiny, would have bordered upon temerity; but now, when that ſcrutiny has taken place, not only among ourſelves, but in the firſt profeſſional circles in Europe, and when it has been uniformly found in ſuch abundant inſtances, that the human frame, when once it has felt the influence of the genuine cow-pox in the way that has been deſcribed, is never afterwards, at any period of its exiſtence, aſſailable by the ſmall-pox, may I not with perfect confidence congratulate my country and ſociety at large on their beholding, in the mild form of the cow-pox, an antidote that is capable of extirpating from the earth a diſeaſe which is every hour devouring its victims; a diſeaſe that has ever been conſidered as the ſevereſt ſcourge of the human race!"

Well may this great and philanthropic phyſician exclaim—

> Jamque opus exegi, quod nec Jovis ira, nec ignis,
> Nec poterit ferrum, nec edax abolere vetuſtas.
> Cum volet illa dies, quæ nil niſi corporis hujus
> Jus habet, incerti ſpatium mihi finiat ævi:
> Parte tamen meliore mei ſuper alta perennis
> Aſtra ferar, nomenque erit indelebile noſtrum.

We now haſten to a *confirmation* of *theſe diſcoveries*, by adducing the moſt reſpectable corroborating teſtimonies, and my own experience, eſpecially thoſe deciſive experiments I made at Lowther in the North of England, when under the roof of the Earl of LONSDALE.

SECT. X.

THE EXPERIENCE OF HENRY JENNER, SURGEON.

There is not, perhaps, in the annals of medicine, to be found, an example of an experiment, or rather inquiry, where the life and health of ſuch numbers already born, and of all to be born, were implicated, that has been taken up *more generally*, received *more candidly*, or conducted *more prudently*, than this concerning the COW-POX.

From *Dr. Bradley's Medical Journal.*

"I TRUST," ſays this able vindicator of the diſcoveries of his uncle, "that the importance of the ſubject will be a ſufficient apology for making this (I hope my final) appeal to the candour and good ſenſe of the public. Confident of the ſtrength of the foundation on which I ſtand, I fear not the blaſts of baſeleſs detraction. Conſcious of no motives which an honeſt and a feeling mind would bluſh to avow, I would wiſh ſeriouſly to impreſs the *importance* of VACCINE INOCULATION.

"I ſhall commence, according to the mode adopted by Dr. JENNER, by fairly ſtating, in the way of compariſon, the peculiar differences which mark the ſmall-pox and cow-pox; at the ſame time premiſing, that I can with the utmoſt confidence affirm, that the ſtatement is in every particular confirmed by very extenſive experience."

SMALL-

SMALL POX.	COW-POX.
1. Very frequently calls *latent diſeaſes into action*; in theſe are included the various ſpecies of *ſcrofula*.	We may ſafely conclude, from a long and careful obſervation of this diſeaſe, as communicated from the cow, and from no limited experience in its inoculation, that it excites no diſpoſition to other complaints. It is a pure diſeaſe, proceeding from the healthieſt and the moſt cleanly of all animals, the heifer.—Nor is that animal ever ſubject to ſcrofula.
2. Is *contagious* and communicable by effluvia.	Numerous experiments teſtify, that this never happens in the cow-pox.
3. Cannot be communicated with ſafety to *children* when *cutting teeth*.	This circumſtance forms no objection to inoculate with vaccine matter.—Numerous experiments juſtify the aſſertion.
4. In ſickening with the ſmall-pox, children are *frequently* afflicted with *alarming fits*; and when their conſtitutions are delicate, they *ſuffer materially in their health during life*.	Nothing of this kind has ever appeared in this diſeaſe; and the conſtitutions of children have been improved by its communication.
5. Is oftentimes *fatal*.	No inſtance of the kind has ever occurred.
6. Is attended with eruptions, and very often *diſfigures* the countenance.	In this diſeaſe (even in the natural way) I never obſerved any puſtules.

7. Perſons

SMALL-POX.	COW-POX.
7. Perſons afflicted with this diſeaſe cannot mingle with thoſe who have never been affected by it.	This objection does not apply to the cow-pox, as it is neither contagious, nor communicable by effluvia.
8. *Medicines* are neceſſary to be adminiſtered.	Here no medicines are required.
9. Notwithſtanding the preſent improved ſtate of inoculation, parents and friends muſt feel a conſiderable degree of *anxiety* for the ſafety of relatives, &c.	Little anxiety can be felt in this diſorder, as it is never attended with the leaſt danger.
10. Requires often a *nurſe.*	This diſeaſe does not.

"The above compariſon of the advantages which are to be derived from the ſubſtitution of the *vaccine diſeaſe* for the *ſmall pox*, is founded upon principles which experience has proved to be fixed upon the ſolid baſis of truth. I am certainly entitled to ſpeak with confidence on the ſubject; as, in conjunction with my uncle, Dr. JENNER (who, with indefatigable induſtry, has completely inveſtigated the nature of the cow-pox), I have had a very extenſive acquaintance in this part, of medical practice; but *prejudice* and *illiberality* will ever be on the watch to ſtop the progreſs of improvement, and to overturn the edifice of well-earned fame. The hiſtory of the advancement of ſcience exhibits this truth in every page; but the ſame detail will inform us that ſucceeding ages have never failed

failed to place in its proper nook, in the temple of renown, the diſcoverer of any thing beneficial to human kind. Ignorant as we are what place may be conſigned to Dr. JENNER by the *preſent age*, he may confidently appeal, by the juſtice of his claims, to an unprejudiced, impartial *poſterity*."

The author concludes this able pamphlet * as follows: "Were it neceſſary, I could produce volumes of evidence and clouds of witneſſes to prove the truth of the facts which I have adduced concerning the cow-pox and ſmall-pox. I could refer the public to medical gentlemen of the firſt charac-

* Vide a pamphlet, entitled, "*An Addreſs to the Public on the Advantages of Vaccine Inoculation, with the Objections to it refuted*;" *by* HENRY JENNER, *Surgeon, F. L. S.* This diſtinguiſhed ſurgeon, who practiſes at Berkeley in Glouceſterſhire, might be ſuppoſed to be influenced by partiality in favour of his uncle's diſcovery, and his evidence would of courſe be admitted by many with ſome caution; but, when we conſider the reſpectability of the parties, and their education, and the certainty of their ſentiments meeting with a minute examination, the evidence muſt then be allowed its due weight. Mr. JENNER has much merit in the able concentration he has made of the comparative advantages of the two diſeaſes, and has ſucceſsfully proved, by the moſt certain characters, that all the caſes publiſhed in the different magazines and newſpapers in oppoſition to his uncle's facts, were examples of *ſpurious cow pox*; which, inſtead of making againſt *the fact*, only ſhewed the *ignorance* on the ſubject of the publiſhers, who appear to have been wholly unacquainted with *the cauſes*, and thoſe *ſigns* of *diſcrimination* of the *true* and *ſpurious cow-pox* pointed out by Dr. JENNER in his works.

ter

ter and higheſt eminence in their profeſſion, who would corroborate my aſſertions reſpecting the *peculiar* properties of the *vaccine diſeaſe*. But, waving this for the preſent, I cannot avoid obſerving that I ſhould conſider myſelf as the grand enemy of ſociety if I were to recommend the general introduction of a practice, if experience, the teſt of theory, and the only ſure guide of conduct, did not fully warrant its *higheſt commendation*. Nay, in what light ſhould I conſider myſelf as a profeſſional man, and I truſt an honeſt member of ſociety, if I were to enforce a practice which involves in itſelf the deareſt intereſts of ſociety; which comprehends in its influence the healths and *lives* of my fellow creatures; if I were not aſſured of its *inevitable ſafety*, and its *numerous advantages*."

"Theſe advantages will doubtleſs be embraced by the ſerious and reflecting. The mind of feeling, anxious for the health and ſafety of relatives and friends, will pauſe and conſider before the *ſmall-pox* be admitted, while *ſo mild* and *ſo efficacious a ſubſtitute* is offered. The imminent danger, the diſfigured ſkin, the ſubſequent ſcrofula of the one will be contraſted with the unmarked countenance and perfect ſafety of the other. But, if *prejudice* ſhould ſtill continue to operate on the general mind, I am confident a time will come when thoſe who have neglected to take advantage of the preſent opportunity will lament their conduct, and poſſibly lament it with unavailing ſorrow; for ſorrow muſt

be

be unavailable for breathleſs friends: nor can "flattery ſooth the dull cold ear of death."

Conſcious as I equally am of the *purity of my intentions*, and of the *truth of my aſſertions*, I leave theſe remarks with the candid judgment of the public."

"———— 'Tis EVIDENCE * ſo full—
If the laſt trumpet ſounded in my ear,
Undaunted I ſhould meet the ſaints half way,
And in the face of Heav'n maintain the fact."

DRYDEN.

* His brother, the Rev. Mr. JENNER, who has been not leſs engaged in the vaccine inoculation, had he favoured the public with his ſentiments, inſtead of quoting from a poet, would have given us this text from heavenly writ: "If they believe not Moſes and the prophets, neither would they believe though one roſe from the dead."

SECT.

SECT. XI.

DR. MARSHALL'S EXPERIENCE *.

First Letter to Dr. Jenner.

"DEAR SIR,

"MY neighbour, Mr. Hicks, having mentioned your wiſh to be informed of the progreſs of the inoculation here for the cow-pox, and he alſo having taken the trouble to tranſmit to you my minutes of the caſes which have fallen under my care, I hope you will pardon the further trouble I now give you

* Dr. MARSHALL has been indefatigable in the important inveſtigation of the COW-POX. When *great truths* are brought forward, they cannot fail to rouſe the active powers of men; and hence we find this phyſician, accompanied by Dr. WALKER, who was inſpired with an equal zeal, leaving the comforts of home, and an extenſive buſineſs, to communicate the benefits of *Vaccine Inoculation* to other parts of the habitable globe. They accordingly ſet out in July 1800, for the glorious purpoſe of inoculating, under a burning ſun, (which they accompliſhed with the happieſt events,) the *ſoldiers* and *ſailors* contending for us gentlemen at eaſe; ſecuring them ever after from an enemy which no bravery can ſurmount, the natural ſmall-pox, whoſe fatality is truly dreadful

you in ſtating the obſervations I have made upon the ſubject."

"When firſt informed of it, having two children who had not had the ſmall pox, I determined to inoculate them for the *cow pox* whenever I ſhould be ſo fortunate as to procure matter proper for the

ful when it aſſails an encamped army, or a number of ſailors, cooped up, from neceſſity, in a rocking cabin.

Dr. MARSHALL was kindly received at Gibraltar, by General O'Hara, who ſet the example to the garriſon, by having firſt his own ſon inoculated;—from thence he went to *Minorca*, and returning, was conveyed by Admiral Lord Keith to *Malta*, where the governor, Sir Alexander Ball, eſtabliſhed an hoſpital for the gratuitous inoculation of the inhabitants under the name of the JENNERIAN INSTITUTION. From Malta this indefatigable philanthropiſt ſailed to Sicily, and reached *Palermo* in March 1802, where the King of Sicily and Sardinia immediately eſtabliſhed an inſtitution ſimilar to the one mentioned above, under the ſame title. Arriving at *Naples*, the ſame inſtitution for gratuitous vaccine inoculation was eſtabliſhed there, and ſurgeons were deſired to bring children from every quarter of the Iſland, and returning in every direction, the rich treaſure being contained in the puſtule, vaccine inoculation was diffuſed like the rays of the ſun, and thus extended its benign influence to every quarter; and each inoculation being the focus of a leſſer circle, the rapidity of the inoculation of the iſland of Sicily was amazing, and in a few weeks reached to the remoteſt corners. Previous to Dr. MARSHALL's leaving Sicily to return to England, after two years devoted to this ſervice of benevolence, his SICILIAN MAJESTY preſented him with an elegant gold medal, and appointed him his phyſician extraordinary.

purpoſe.

purpoſe. I was therefore particularly happy when I was informed that I could procure matter from ſome of thoſe whom you had inoculated."

"In the firſt inſtance, I had no intention of extending the diſeaſe further than my own *family*; but the very extenſive influence which the conviction of its efficacy in reſiſting the ſmall-pox has had upon the minds of the people in general, has rendered that intention *nugatory*, as you will perceive by the continuation of my caſes incloſed in this letter, the detail of which would be ſuperfluous; by which it will appear, that ſince the 22d of March I have inoculated *an hundred* and *ſeven* perſons; which, conſidering the retired ſituation I reſide in, is a very great number."

"There are alſo other conſiderations which, beſides that of its influence in reſiſting the ſmall-pox, appear to have had their weight; namely, the peculiar mildneſs of the diſeaſe, the known ſafety of it, and its not having in any inſtance prevented the patient from following his ordinary buſineſs."

"In all the caſes under my care, there have only occurred two or three which required any application, owing to eryſipelatous inflammation on the arm, and they immediately yielded to it. In the remainder the conſtitutional illneſs has been ſlight, but ſufficiently marked, and conſiderably leſs than I ever obſerved in the ſame number inoculated with the ſmall-pox."

"Neither

" Neither does there appear in the cow-pox to be the leaſt exciting cauſe to any other diſeaſe, which in the ſmall-pox has been frequently obſerved; the conſtitution remaining in as full health and vigour after the termination of the diſeaſe as before the infection."

" Another important conſideration appears to be, the impoſſibility of the diſeaſe being communicated, except by the actual contact of the matter of the puſtule; and conſequently the perfect ſafety of the remaining part of the family, ſuppoſing only one or two ſhould wiſh to be inoculated at the ſame time."

" Upon the whole, it appears evident to me, the Cow-pox is a *pleaſanter*, *ſhorter*, and *infinitely more ſafe diſeaſe* than *the inoculated ſmall-pox*, when conducted in the moſt careful and approved manner; neither is the local affection of the inoculated part, or the conſtitutional illneſs, near ſo violent. I ſpeak with confidence on the ſubject, having had an opportunity of obſerving its effects upon a variety of conſtitutions, from *three months old* to *ſixty* years; and to which I have paid particular attention."

" In the caſes alluded to here you will obſerve, that the removal from the original ſource of the matter has made no alteration or change in the nature or appearance of the diſeaſe, and that it may be continued, *ad infinitum*, (I imagine,) from one

perſon to another, (if care be obſerved in taking the matter at a *proper period*,) without any neceſſity of recurring to the original matter of the cow."

"I ſhould be happy if any endeavours of mine could tend further to elucidate the ſubject, and ſhall be much gratified in ſending you any further obſervations I may be enabled to make."

"I have the pleaſure to ſubſcribe myſelf,

"Dear Sir, &c.

Eſtington, Glouceſterſhire, April 26th, 1799. "JOSEPH H. MARSHALL."

"The gentleman who favoured me with the above account," ſays Dr. JENNER, "has continued to proſecute his inquiries with unremitting induſtry, and has communicated the reſult in another letter, which, at his requeſt, I lay before the public."

Dr. Marſhall's Second Letter.

"DEAR SIR,

"Since the date of my former letter, I have continued to inoculate with the cow-pox virus. Including the caſes before enumerated, the number now amounts to *four hundred* and *twenty-three*. It would

would be tedious and uſeleſs to detail the progreſs of the diſeaſe in each individual—it is ſufficient to obſerve, that I noticed no deviation in any reſpect from the caſes I formerly adduced."

" The general appearances of the arm exactly correſponded with the account given in your firſt publication."

" When they were diſpoſed to become troubleſome by eryſipelatous inflammation, an application of equal parts of vinegar and water always anſwered the deſired intention."

" I have already ſubjected *two hundred* and *eleven* of my patients to the action of variolous matter, *but every one reſiſted it.*"

" The reſult of my experiments (which were made with every requiſite caution) has fully convinced me *that the true Cow-pox is a ſafe and infallible preventive from the ſmall-pox; that in no caſe which has fallen under my obſervation has it been in any conſiderable degree troubleſome, much leſs have I ſeen any thing like danger; for in no inſtance were the patients prevented from following their ordinary employments.*"

" I cannot now entertain a doubt that the *inoculated cow-pox* muſt *quickly ſuperſede* that of the *ſmall-pox.*"

" If the many important advantages which muſt reſult from the new practice are duly conſidered, we may reaſonably infer that public benefit, the ſure teſt of the real merit of diſcoveries, will render it *generally extenſive.*"

"To you, Sir, as the *diſcoverer* of this highly beneficial practice, mankind are under the higheſt obligations. As a private individual, I participate in the general feeling; more particularly as you have afforded me an opportunity of noticing the effects of a ſingular diſeaſe, and of viewing the progreſs of the moſt curious experiment that ever was recorded in the hiſtory of phyſic.

"I remain, Dear Sir, &c.

"JOSEPH H. MARSHALL.

"P. S. I ſhould have obſerved, that of the patients I inoculated and enumerated in my letter, one hundred and twenty-ſeven were inoculated with the matter you ſent me from the London cow. I diſcovered no diſſimilarity of ſymptoms in theſe caſes, from thoſe which I inoculated from matter procured in this county."

"No puſtules have occurred, except in one or two caſes, where a ſingle one appeared on the inoculated arm."

"No difference was apparent in the local inflammation."

"There was no ſuſpenſion of ordinary employment among the labouring people, nor was any medicine required."

"I have frequently inoculated one or two in a family, and the remaining part of it ſome weeks afterwards.

afterwards. The uninfected have ſlept with the infected during the whole courſe of the diſeaſe without feeling it; ſo that I am fully convinced the diſeaſe cannot be taken but by actual contact with the matter."

"I had nearly omitted mentioning another great advantage that now occurs to me in the inoculated cow-pox; I mean the ſafety with which pregnant women may have the diſeaſe communicated to them. I have inoculated a great number of females in that ſituation, and never obſerved their caſes to differ in any reſpect from thoſe of my other patients."

Indeed the diſeaſe is ſo mild, that it ſeems as if it might at all times be communicated with the moſt perfect ſafety."

SECT. XII.

DR. WOODVILLE'S EXPERIENCE.

NEXT in time and higheſt in rank comes the experience of Dr. WOODVILLE.—It was not to be expected that the phyſician of the ſmall-pox hoſpital would be an inactive ſpectator of the great ſcenes that were performing; accordingly we find the learned and ſagacious Dr. Woodville early turning his thoughts to the important revolution about to be eſtabliſhed, and the ſmall-pox hoſpital was converted into a place of experimental inquiry, and it brought to light ſome hidden properties in the cow-pox wholly unexpected.

In the two firſt caſes, thoſe of MARY and ELIZABETH PAYNE, "there was only the *inoculated pock*, and no eruption. The diſeaſe took its uſual progreſs, and terminated favourably."

"Theſe children were after this inoculated plentifully with ſmall-pox matter, *but without its producing the diſeaſe.*"

"They were alſo brought to the bedſide of a perſon labouring under a ſevere natural ſmall-pox, and handled and kiſſed by the patient, *but both were found to be ſecure from the infection of the ſmall-pox.*"

In the third caſe, on the 7th day, in the evening, Dr. WOODVILLE obſerved "two puſtules * appear exactly

* Vide "*Reports of a ſeries of inoculations for the variolæ vaccinæ, or cow-pox, with remarks and obſervations on this diſeaſe, conſidered as a ſubſtitute for the ſmall-pox by* WILLIAM WOODVILLE, M. D. *Phyſician to the Small-pox Hoſpital.*"—The authority of Dr. Woodville being the higheſt poſſible; and his work, which was eagerly read by all ranks of people, the reſult of a learned candid ingenuous mind; although a faithful tranſcript of *facts*; it gave ſome check to the progreſs of *vaccine innoculation*: for it was ſuſpected that theſe eruptive examples *reported* were real caſes of cow-pox; and Dr. Jenner's aſſertion "of its being always a diſeaſe of a *ſingle puſtule*, where the matter was inſerted, and never accompanied, like the ſmall-pox, with a crop of engendered puſtules," was for a time called in queſtion, until Dr. JENNER took up the pen, and attributed with all the temper imaginable this difference of opinion to a contamination of the cow-pox matter with the ſmall-pox virus, producing in conſequence an *hybrid diſeaſe*.—This produced an anſwer from Dr. Woodville with the following very extraordinary dedication.

To EDWARD JENNER, M. D. F. R. S. F. L. S. &c.

"Sir,

"That the vaccine matter, with which the inoculations have been carried on in the hoſpital, was contaminated with that of the variolous, and that a *hybrid* diſeaſe has in conſequence been propagated, not only by me, but alſo by others, who have been ſupplied with that matter, is a *charge* which I know to be *unfounded*, and which it is my duty to refute."

"The performance of this taſk has, however, been very painful to me, from being unable to avoid a certain de-

exactly reſembling the ſmall-pox, on the 11th day there were nine, on the 13th nine others, on the 14th ſix more, making in all twenty-four."

From

gree of *recrimination*, which attaches to a *man*, for whom I have long entertained a friendly regard, and to whom the public is under the great obligation by having been made acquainted with a diſcovery which promiſes the moſt important benefits to ſociety.

" I am,

" Sir,

" Your obedient ſervant,

" W. WOODVILLE."

Ely-Place, July 1ſt, 1800.

" I feel myſelf," ſays Dr. WOODVILLE, " impelled to addreſs the public a ſecond time on the ſubject of the inoculation for the cow-pock, not only becauſe an enlarged experience of it has now enabled me to produce more deciſive evidence of its *advantages*, but becauſe ſome remarks upon my practice of this new inoculation have lately been made, which call upon me for an immediate reply."

" I truſt it will be generally acknowledged, that the obſervations and opinions formerly adduced by me on this ſubject, are ſtrictly impartial and unprejudiced; alſo, that the facts on which they are founded, have been related without the leaſt reſerve, and with the moſt ſcrupulous fidelity: notwithſtanding, my concluſions in reſpect to a point of conſiderable importance have been oppoſed in a manner which I deem wholly *unwarrantable*. I allude to the puſtular eruptions which appeared on more than half the patients firſt inoculated for the cow-pock, under my direction; Dr. Jenner, in a late publication, having maintained that thoſe puſtules could *only* proceed

From a great many trials of vaccine innoculation in this place, before wholly dedicated to the ſmall-

ceed from variolous matter, introduced by inoculation into the conſtitution along with that of the vaccine. That objections would be made to this effect might be foreſeen, and they were accordingly anticipated in my *reports*, where ſeveral facts and arguments are brought forward to prove, that all the caſes which I had repreſented as caſes of cow-pox, were produced from the inoculation of the matter of that diſeaſe, uncontaminated with any other. Having done this in a manner which has generally been deemed ſatisfactory, I did not now expect that any gentleman would publicly attempt to ſubvert my concluſion, without firſt doing me the juſtice to ſhow, that the reaſons on which it was founded were defective or fallacious. Although I have been diſappointed in this expectation, yet as I have no other object in view than a diſcovery of the truth, I will fully ſtate all the reaſons which the ingenious inventor of the new inoculation has advanced in ſupport of a contrary opinion. He firſt enters upon the conſideration of *puſtules* at page 7, where he ſays, ' When I conſider the great number of caſes of caſual inoculation immediately from cows, which have from time to time preſented themſelves to my obſervation, and the many ſimilar inſtances which have been communicated to me by medical gentlemen in this neighbourhood ; when I conſider too, that the matter with which my inoculations were conducted in the years 1797, 1798, 1799, was taken from different cows, and that in no inſtance any thing like a variolous puſtule appeared ; I cannot feel diſpoſed to imagine that eruptions, ſimilar to thoſe deſcribed by Dr. Woodville, have ever been produced by the *pure uncontaminated cow-pox virus:* on the contrary, I do ſuppoſe, that thoſe which the Doctor ſpeaks of *originated* in the action of variolous matter which crept into the conſtitution with the vaccine: and this, I *preſume*, happened from the inoculation of a great number of the patients with a variolous matter,

pox, it turned out, that the vaccinated patients became alſo infected with the contagion of the ſmall-pox; and hence the appearance of both diſeaſes at the ſame time on the ſame perſon. For example:

"About two months ago," ſays Dr. WOODVILLE, "a girl, eleven years of age, was admitted into the inoculation hoſpital, where ſhe was inoculated with vaccine matter. Five days afterwards ſhe was ſeized with all the ſymptoms of ſmall-pox, and an eruption of puſtules (about 200) took place. On the 10th day of the inoculation, one of the variolous puſtules appeared diſtinctly within the margin of the vaccine tumour. I charged a lancet with matter taken from the centre of the tumour, and with it inoculated a child in whom it produced a regular caſe of cow-pock. Mr. Wachſel, the apothecary to the hoſpital, who inoculated three children with matter taken from the puſtule in the vaccine humour, found that it communicated the cow-pox to all of them."

The diſcovery which this led to, as alluded to above, was, that, although the inoculated cow-pox did not ſuperſede the ſmall-pox, yet the latter was

(ſome on the third, others on the fifth day,) after the vaccine had been applied; and it ſhould be obſerved, that the matter thus propagated became the ſource of future inoculations in the hands of many medical gentlemen, who appear to have been previouſly unacquainted with the nature of the real genuine cow-pox." "NON NOSTRUM INTER VOS TANTAS COMPONERE LITES."

rendered,

rendered, although taken in the natural way, even more mild than the inoculated ſmall-pox uſually turns out, and the *puſtular* caſes *diminiſhing*, at length *wholly diſappeared*, and the *cow-pox* reared its TRIUMPHANT STANDARD in the houſe conſecrated to the *ſmall-pox*, and now reigns there alone.

Dr. WOODVILLE's *public report is*

"It was not to be expected that a diſeaſe originating in brutes ſhould be recommended as a ſubſtitute for the ſmall-pox, and for this purpoſe be transferred to the human race, without exciting much obloquy and oppoſition: indeed, ſeveral of the moſt valuable diſcoveries in medicine have met with a ſimilar reception; among theſe may be included inoculation of the ſmall-pox, againſt which the clamour became ſo conſiderable, that it fell into diſuſe for ſeveral years. To regulate the diſputes which the introduction of that practice into this country occaſioned, and to direct the controverſy to the true points at iſſue, Dr. JURIN, then ſecretary to the Royal Society, judiciouſly ſtated, that the fate of inoculation depended upon the deciſion of the two following queſtions:"

"*Firſt*, 'Whether the diſtemper, given by inoculation, be an *effectual ſecurity* to the patient againſt his having the ſmall-pox afterwards in the natural way?'

"*Secondly*, 'Whether the *hazard* of the inoculation

tion be conſiderably *leſs* than that of the natural ſmall-pox?"

"The application of theſe remarks to our inquiries into the merits of the vaccine, compared with thoſe of the variolous, inoculation, is too obvious to require being pointed out. Now, if by diſtemper in the firſt query we underſtand that of the cow-pox, and if in the ſecond we add new immediately before inoculation, and ſubſtitute inoculated for natural, I would anſwer both queſtions in the affirmative, preſuming that the facts already brought forward on the ſubject clearly decide the cow-pox inoculation to be *preferable* to that of the ſmall-pox."

"An opinion has been propagated, and with ſeveral perſons has had conſiderable influence, that the power of reſiſting the infection of the ſmall-pox, which the conſtitution derives from the vaccine diſeaſe, will continue only for a few years: but this is mere conjecture, contradicted by facts of caſual caſes of cow-pox, and contrary to analogy."

"In regard to the comparative mildneſs of the vaccine and variolous diſeaſes, as produced from inoculation, I have been enabled to give a very different report from that which I publiſhed laſt year. The reaſon why ſeveral of the cow-pox caſes then at the hoſpital proved ſevere, like thoſe of the inoculated ſmall-pox, has already been ſufficiently explained, and will, I truſt, have the effect of placing the cow-pock inoculation in a more advan-

tageous

tageous point of view than my former *reports* preſented."

"I have before obſerved, that of the laſt 2000 caſes of cow-pox under my care, not a ſingle alarming ſymptom was excited; and I may now add, that during the laſt eight months I have not met with one inſtance of the vaccine diſeaſe, which has not been as favourable as the mildeſt caſes of variolous inoculation. I have no doubt, therefore, that the inoculated cow-pox is *as much milder* than the inoculated ſmall-pox, as the latter diſeaſe is milder than the caſual ſmall-pox: nay, it ſeems to me from the very benign form in which the vaccine pock has of late invariably appeared, that it may be conſidered as a diſeaſe perfectly *harmleſs* in its effects.—Indeed, upon this conſideration, ſeveral perſons have been perſuaded to have their children inoculated for the diſeaſe, although they were very doubtful of the reality of its antivariolous power: for, if it proved a ſecurity to the children againſt the infection of the ſmall-pox, the object would be attained by the ſafeſt means: if it did not, no harm would ariſe from the experiment, ſince it was tried merely as a preliminary expedient to the inoculation for the ſmall-pox. The reſult, however, has conſtantly furniſhed additional evidence in favour of the new inoculation, and of courſe has tended greatly to promote the adoption of it in London."

"Another conſiderable conſideration, highly important to the community is, that as the cow-pox, unleſs

unleſs from the adventitious circumſtances before-mentioned, very rarely, *if ever*, appears with variolous-like puſtules, it would ſeem incapable of propagating itſelf by effluvia. Hence by the ſubſtitution of the vaccine for the variolous inoculation, the caſual ſpreading of the ſmall-pox from the inoculated, a circumſtance which has greatly contributed to ſwell the bills of mortality for the metropolis, and of which the public has *long juſtly complained*, is completely avoided. Nor is it unreaſonable to conclude, that if the new inoculation were to be *univerſally* adopted, the variolous diſeaſe, in proceſs of time, may be *wholly extinguiſhed*."

The French nation, then at war with this country, could not but behold this great diſcovery with an eye of aſtoniſhment, and became eager to aſcertain the fact, and participate in the bleſſing.

Dr. WOODVILLE was accordingly induced to viſit France for this expreſs purpoſe. Our Government on that occaſion ſhewed it carried on war not with a ſpirit of mortal animoſity, but with that high honour "which makes ambition virtue;" a paſſport was granted, and he arrived in France as a GUARDIAN ANGEL come to ſtay the peſtilence.

He began the vaccine inoculation upon three children at Boulogne, where he firſt landed on his way to Paris, and placed them under the care of Dr. Nowell, an Engliſh phyſician, who was deſired to ſend vaccine matter upon lancets to Paris, as ſoon

as

as the arms of thoſe children produced a ſufficient quantity for the purpoſe. This precaution proved to be very fortunate; for, five days afterwards, when the matter of the ſame pock was tried at Paris, it produced no effect whatever; and the cow-pock, which Dr. Thouret had received from Geneva, and which had not been longer than four or five days upon the thread, was found to be equally incapable of producing the diſeaſe.

The diſappointment from the above trials was not, however, of long continuance. The inoculation at Boulogne ſucceeded; and from them Dr. Woodville was ſupplied with matter at Paris, which fully anſwered his expectation. Dr. Colon's only child was the firſt perſon inoculated in this city; and other medical men, in order to teſtify the confidence they placed in the new inoculation, followed the example; ſo that Dr. Woodville had the ſatisfaction to ſee the practice extended, not only amongſt the children in different hoſpitals, but alſo in private families in Paris, where, no doubt, it will ſoon become general *.

The

* For an account of the progreſs of vaccine inoculation in France, and I may add throughout the habitable globe, vide the elaborate work of Mr. Ring, entitled, "*A Treatiſe on the Cow-pox, or Hiſtory of Vaccine Inoculation.*" I ſhall, therefore, juſt inform my readers, and in the way of note, as my work is intended as a popular production, only comprehending the moſt prominent facts reſpecting vaccine

The number inoculated by Dr. Woodville at the preſent time amounts to upwards of 7000 perſons, and out of theſe more than 3000 have been inoculated with the ſmall-pox matter, and a conſiderable number expoſed to the contagion of the ſmall-pox; but in every inſtance they have *reſiſted* the ſmall-pox, being rendered by the cow-pox inſuſceptible of its influence.

cine inoculation, and its early domeſtic triumphs, that not long after the arrival of Woodville at Paris, Dr. COLON prepared for the preſs, and publiſhed a pamphlet on the cow-pox.

"Firſt, having pointed out the advantages of vaccine inoculation, Dr. Colon proceeds to anſwer the different objections urged againſt the practice. It is the lot, ſays he, of all uſeful diſcoveries, to have to combat, at their commencement, all that the ſpirit of *party*, or of *intereſt*, can invent, to arreſt their progreſs. He obſerves, that the vaccine experiments were ſcarcely commenced, when certain perſons raiſed an outcry, about the danger of introducing into the human body matter taken from a brute. Theſe apprehenſions, too violent and premature, as Dr. Colon remarks, to be ſincere, were ſpread with great induſtry. They are not, however, confirmed by experience; for our author tells us, he himſelf has inoculated above a hundred children with the cow-pox; of whom not one had any ſerious indiſpoſition. It is proved, in a ſatisfactory manner, by the experience of Dr. Colon, and ſince by all the other practitioners in France, that the vaccine virus does not degenerate, by repeated tranſmiſſions, in the human ſubject. The learned author refutes the abſurd arguments advanced againſt this practice. He contends, that it ought to be adopted as a ſubſtitute for the ſmall-pox; which is ſo highly dangerous to pregnant women, and children in a ſtate of dentition; and that every partial inoculation of the

ſmall-pox, in a populous neighbourhood, becomes a new focus of infection. Dr. Colon informs us, that before he had abſolute proofs of the benefit of this new method, he had formed an eſtabliſhment for the inoculation of the cow-pox, at his houſe at Vaugirard; but now, ſince it is proved to demonſtration that it is ſo innoxious both to the individuals who are ſubjected to the operation, and to the public, he is returned to Paris, in order to inoculate at their own houſes all thoſe who put themſelves under his care. Such is the report of the ſucceſs of vaccine inoculation, preſented to the world by an eminent phyſician of one of the moſt enlightened nations in Europe. If any thing can add to the well-deſerved fame which this ineſtimable practice has already acquired, this tranſplanting muſt enſure its triumph, and complete its glory." RING.

SECT.

SECT. XIII.

DR. PEARSON'S EXPERIENCE.

It alſo could not be expected that the active mind of the learned Dr. PEARSON would be unengaged by the grand revolution now ſo publicly announced; accordingly we find this able phyſician, next in time to Dr. Woodville, took up the inquiry; and, beſides the acceſſion of freſh information * on the ſubject, corroborating the diſcoveries of Dr. Jenner, he eſtabliſhed a PUBLIC INSTITUTION, for the cow-pock inoculation, under the patronage of His Royal Highneſs the Duke of YORK, conceiving it the beſt plan imaginable to ſpread information among ſuch as were unacquainted with this practice; for determining all doubtful points relative to it; and for diſcovering the cauſe of failures if ſuch exiſted; ſince every caſe was to be regiſtered, and every new trial to be made under the medical eſtabliſhment belonging to that inſtitution; and the reſults of the practice to be reported to the governors who were both numerous and reſpectable, paying a ſmall ſum annually to the inſtitution. A far-

* Vide note *, page 92.

ther

ther conſiderable public benefit aroſe from a ſtock of vaccine matter being always ready for the public uſe.

THE REPORT WITH DIRECTIONS.

" 1. The vaccine pock matter being generally, when firſt taken from the veſicle, a thin limpid fluid, it becomes, when dried, ſcarcely viſible, either on *glaſs*, or on the end of a *lancet*, even on a quite new one. If the matter be taken on thread, it will be perceived by the ſtiffneſs of it when dried."

" 2. If the matter is not uſed immediately on its being taken from the vaccine pock, it will of courſe be *dry* ; and when employed, it ſhould be ſoftened by the ſmalleſt particle of hot water; and to avoid too great dilution, that ſhould be done by a particle of hot water hanging on the extremity of a needle."

" 3. The inoculation muſt be performed in the ſame manner as for the ſmall-pox; but it may be uſeful to recommend, that,

" 4. Matter may be inſerted in one place only in each arm, by a very ſmall ſcratch or puncture of the ſkin."

" 5. One armed lancet ſhould be uſed for only one, or at moſt two punctures."

" 6. If the infection take, there will be ſeen in the inoculated part, in *four* days, or leſs, a red ſpot, like a ſmall gnat-bite.—In *ſix* days there will be generally a very ſmall veſicle.—In *nine* days, a circular veſicle appears, as large as a pea, often ſurrounded by a ſmall red areola.—In *twelve* days, the red areola will generally ſurround the veſicle, which then begins to dry, and turn black in the middle."

" Between the *eighth* and *eleventh* day, a ſlight fever often takes place."

" By the *fourteenth* day, the veſicle is uſually changed into a circular dark brown ſcab, which ſhould by no means be removed, but left to fall off, which it will do in two or three weeks, leaving a pit."

" If in four days the *gnat-bite* appearance be not manifeſt, the inoculation ſhould be repeated."

" 7. Of above four thouſand perſons who have had the inoculated cow-pock, not one has died."

" 8. Not a ſingle well-atteſted inſtance has been produced, among more than 4000 of the above perſons known to have had the inoculated vaccine-pock, and who were ſubſequently inoculated for the ſmall-pox, of this diſeaſe being ſubſequently taken; although many of theſe were alſo expoſed to the infectious effluvia of the natural ſmall-pox: and traditionally, this fact has been eſtabliſhed time immemorial, with regard to the caſual cow-pock."

" 9. It

"9. It may now ſafely be affirmed, that the inoculated cow-pock is generally a *much ſlighter* diſeaſe than the inoculated ſmall-pox; and that the proportion of ſevere caſes in the latter is to the former at leaſt ten to one."

"10. It does not appear that the genuine vaccine inoculation can be propagated like the ſmall-pox, by effluvia from perſons labouring under it. Hence, if the vaccine inoculation ſhould be *univerſally* inſtituted in place of the ſmall-pox, it is reaſonable to conclude, that this moſt loathſome and fatal malady will be eradicated; and, like the ſweating ſickneſs, plague, certain kinds of leproſy, &c. be known in this country only by name."

"11. It does not appear that the vaccine virus, like that of the ſmall-pox, can be conveyed ſo as to produce the diſeaſe indirectly from diſeaſed perſons, by adhering to clothes, furniture, bedding, letters, &c. Hence no danger of its propagation in theſe channels is to be apprehended from the *univerſal* practice of the inoculation of the cow-pock."

"12. It has been found that a perſon, whoſe conſtitution has diſtinctly undergone the vaccine diſeaſe, is in future unſuſceptible of the ſame diſorder. Hence no objection can be made to the new inoculation, as was once urged, on account of its being imagined that, by the commutation of the ſmall-pox for the vaccine pock, an eruptive diſeaſe would be introduced, to which the ſame perſon would be repeatedly liable."

" 13. It does not appear that thoſe who have already gone through the ſmall-pox are ſuſceptible of the vaccine diſeaſe, as was formerly thought *. Hence no objection can be urged on the ſcore of perſons who have already gone through the ſmall-pox being liable to a new infectious diſeaſe, by the introduction of the vaccine inoculation."

" 14. Experience ſhews, that there is no reaſon to apprehend the ſmalleſt chance of deformities of the ſkin from the vaccine inoculation."

" 15. The extenſive practice of the vaccine inoculation in the preſent year, and the accounts of the diſeaſe in the caſual way, do not ſhow that any other diſeaſe will be excited ſubſequently, which is peculiarly imputable to the old practice."

" 16. Conclusion.—From the above comparative ſtatement it is manifeſt that it is highly to the intereſt of the Britiſh public to adopt *univerſally* the inoculation of the vaccine pock in the place of ſmall-pox."

* Theſe two laſt poſitions (12 and 13) Dr. Pearson lays the claim of having diſcovered.

SECT.

SECT. XIV.

THE EXPERIENCE OF WILLIAM FERMOR, ESQ.

It is fortunate for ſcience, when gentlemen, not of the profeſſion, take the trouble to inveſtigate ſubjects whoſe eſtabliſhment is of the utmoſt importance to ſociety. The world liſtens with attention to their ſtatement, as they can have no ſelf-intereſt to ſerve, and when fortune ſmiles on the author, as in the preſent inſtance, all he ſays is heard with that attention which the preſent writer ſo amply merits.

" Although the original virulence of the ſmall-pox," ſays Mr. FERMOR *, " and its fatal effects have of late years been conſiderably diminiſhed by the modern practice of inoculation, it does not appear that its contagious influence has been much abated; on the contrary, its univerſality has certainly been much extended. Hence it has compelled almoſt

* This extract is made from a ſmall pamphlet, entitled, " *Reflections on the Cow-pox*," &c. The judicious writer has the following motto, deſcriptive of his own conviction:

Segnius irritant Animos demiſſa per Aurem,
Quam quæ ſunt oculis Subjecta fidelibus.

HORACE.

For a further account of this work, vide note, * page 70.

every individual to ſubmit to inoculation, notwithſtanding conſtitutional habits and family complaints may have rendered its good effects *precarious*. Nay, how few parents are there who have not had many anxious moments on account of the reſult, notwithſtanding they have employed the moſt eminent in the profeſſion and the cooleſt mode of treatment."

" How neceſſary it is likewiſe to chuſe a ſequeſtered ſpot for its communication, detached from places inhabited by the commonalty, who, from prejudice or diſinclination, refuſe to avail themſelves of the ſalubrious effects of this important diſcovery! What an expence has the Government of the country incurred by inoculating the army alone, and how have the military contributed to ſpread the diſeaſe, by communicating it to the inhabitants of the places they paſſed through, as well as to thoſe amongſt whom they afterwards reſided."

" What an abſence from duty was neceſſary for the ſoldier, during its progreſs, and what a diminution of bodily ſtrength, even under its moſt favourable appearances! What conſiderable danger frequently aroſe from the intemperance and miſconduct of the patient; and how many lives were often loſt by their fatal conſequences!"

" Let us now review the *nature* of the COW-POX, and its *effects*. The diſorder requires no previous or ſubſequent regimen. No infection attends it; the complaint is in general merely local; and no abſence from ordinary employments, nor is any medicine

dicine neceſſary. In a national and civil light, what an important diſcovery!"

Theſe *concluſions* were the reſult from an experience of 326 perſons, who were inoculated by, or in the preſence of, this gentleman, of whom 136 were re-inoculated for the ſmall-pox, but were found *proof* againſt this diſeaſe *.

"I am happy," ſays Mr. Fermor, "to ſay, that my experiments have been made with the moſt liberal concurrence, and under the inſpection of many of the moſt reſpectable and learned profeſſors of the Univerſity of Oxford, and the moſt noted practitioners of its environs, whoſe names will appear in the annexed account; and who, from motives of humanity, and principles truly patriotic, have been ſo kind as to give up much of their time and attention to this very intereſting ſubject."

"Amongſt the reſt, I feel myſelf particularly indebted to Dr. WALL, of diſtinguiſhed profeſſional abilities, and clinical profeſſor in that univerſity; to Sir CHRISTOPHER PEGG, the public reader in anatomy there; to Dr. WILLIAMS, the regius profeſſor of botany; who have not only encouraged me in this undertaking, but have been witneſſes of its ſalubrious effects. I feel myſelf likewiſe under particular obligations to Mr. GROSVENOR, a very eminent ſurgeon there; who had been ſo kind

* Vide Mr. Fermor's excellent pamphlet, in which will be found the names and pariſhes of each individual inoculated.

as to inoculate ſome of our patients afterwards with variolous matter, and to give up much of his time to the inſpection of them after their inoculations. I am happy in having this opportunity of acknowledging likewiſe my obligations to Meſſrs. DAVIS, ſurgeons of eminence at Biceſter; to Mr. BRAINE, ſurgeon, of the ſame place; to Mr. OLLEY, of known profeſſional ſkill, at Brackley; and to Mr. WATSON, ſurgeon, at Aynho; who have been ſo good as to inoculate, with variolous matter, the patients I had previouſly inoculated here with the cow-pox."

" During the courſe of theſe experiments, upon ſo conſiderable a number of different ſubjects of all ages, from *eleven days* to *ſeventy-five years*, no puſtule appeared on any of them, but on the inoculated part, except in two inſtances; a ſingle puſtule on the forehead of one, and one upon the arm of another. No ſickneſs of any conſequence enſued, nor any loſs of time from ordinary avocations. The diſorder was not communicated by contagion to any who refuſed to ſubmit to its inoculation. The ſymptoms which generally occurred were, a pain in the axilla, or in the head, ſometimes in both; but no ſickneſs, or, one may ſay, much conſtitutional illneſs. Indeed, ſome of them were entirely free from all the above complaints. An efloreſcence generally appeared about the punctured part, and ſometimes extended, though without pain, down the fore-arm, and up to the ſhoulder. But

this

this happened very ſeldom. No medicine of any ſort was adminiſtered, nor had any of them any inflammation on their arms that could create much uneaſineſs."

"It is not neceſſary for me to ſay more on this truly intereſting ſubject. I leave the impartial reader to his natural reflections; but I think, in conſequence of the above premiſes, I may venture to ſay, that he will *now* be of opinion that the *genuine* COW-POX *is mild in its effects, congenial with every ſituation and employment of life, totally void of contagion, and a certain preſervative againſt the baneful influence of the ſmall-pox. And that no conſtitutional or family complaint can interfere with its effects, or prevent its adoption.*"

SECT.

SECT. XV.

MR. KELSON'S EXPERIENCE.

FROM the obſervations of Mr. KELSON, of Seven-oaks, publiſhed in the Medical and Phyſical Journal for July 1800, it appears "that the vaccine virus may be intermixed with the variolous, without being chemically combined with it. Hence two ſorts of eruptions were produced; one of pink, fiery-looking *bliſters* *, the other of *puſtules*. Thoſe who were inoculated from the former, had the cow-pox;

* This appearance is thus deſcribed by Dr. Pearſon. "Sometimes, but *in very few inſtances*, I have found, after inoculation for the cow-pock, moderate ſized pimples, but containing little or no limp, and never any pus, to ariſe, and this chiefly about the arm, where the original vaccine puſtule has been rubbed off, or in irritable habits has gone on unkindly, and likewiſe after the diſeaſe has gone through its progreſs; theſe ſpots, ſo unlike the ſmall-pox," he continues, "gave no trouble, and were of ſhort duration, and according to Dr. Jenner are unworthy of medical conſideration." I mention this fact here, from obſerving that ſuch pimply eruptions have ſometimes excited uneaſineſs in parents, and that they may ariſe *occaſionally*, eſpecially with children about the teeth, where there has been no expoſure to the ſmall-pox. —In the caſe of Mr. Squib's child, inoculated for the cow-pock by me whilſt the ſiſter laboured under a very bad confluent ſort of natural ſmall-pox, there was a number of theſe pimples,

pox; thoſe who were inoculated from the latter, had the ſmall-pox; and where the cow-pock and ſmall-pox puſtules interfered with each other, matter being taken from this, produced the two diſeaſes, with the two kinds of eruptions."

"In one of Mr. Kelſon's firſt caſes the vaccine diſeaſe appeared in the mildeſt form poſſible. The matter taken from this patient, Mr. Kelſon ſoon learnt to prefer. From this *no eruptions* occurred, in upwards of a *hundred* patients, whom he inoculated, from *two weeks* old to *eighty years*. In the autumn he received a freſh ſupply of matter from Dr. Pearſon; with which he inoculated as many more, without having *one eruptive caſe*."

Mr. Kelſon is of opinion, "that the vaccine diſeaſe, when unattended with eruptions ſimilar to variolous, *is a thouſand times more trifling than the ſmall-pox*; he ſcarcely had a patient ſufficiently ill to prevent amuſement or labour." He ſays, "the local inflammation is not to be dreaded; only requiring a ſinged rag, when the puſtule happens to be rubbed off,—and that it is not an infectious diſeaſe."

"To determine this laſt point, he ſelected about forty people in the workhouſe, and inoculated half of them, ſome in both arms, and fixed them to ſleep with thoſe who had not had the diſorder; but

pimples, which appeared on the face only, and the patient eſcaped the ſmall-pox, no variolous puſtules having taken place.

in

in no inſtance was it communicated to the others. He broke the puſtules, and frequently made them ſmell the parts; but to no effect."

"After giving the diſeaſe to the remainder, the following experiments were made, in order to aſcertain whether it was a ſecurity againſt the ſmall-pox. *Firſt*, he inoculated the whole party with the moſt virulent matter he could procure; but nothing enſued, except local ſuperficial inflammation for the firſt ſix or ſeven days.—He *then* introduced a wretched family, juſt recovered from a very bad ſmall-pox, their dirty clothes unchanged, and divided theſe in different beds among them; but to no purpoſe."

"He after this inoculated with the cow-pox an infant, and as ſoon as he was ſatisfied that infection had taken place, had it put into the bed with its ſiſter, who had the moſt dreadful confluent-ſmall-pox; but no inconvenience enſued."

"The greater part of theſe patients Mr. Kelſon has *ſince* inoculated again, both with vaccine and variolous matter; but without effect. Moſt of the others whom he inoculated, have had variolous matter inſerted afterwards, for the ſatisfaction of themſelves or friends."

"He never knew an inſtance of its occaſioning ſcrophula, or any cutaneous diſeaſe; and has never given a ſingle doſe of phyſic, either before or after inoculation."

SECT.

SECT. XVI.

MY OWN EXPERIENCE.

AFTER ſo much has been preſented to the public on the *cow-pox*, it might appear ſuperfluous in me to ſay any thing on this ſubject; but conſidering the queſtion of the utmoſt importance to ſociety and the comfort of families, and believing that the inoculation of the village of Lowther, and the proofs that were manifeſted there, of the *cow-pock* affording an abſolute ſecurity from the ſmall-pox, muſt have equal weight here, as in the northern counties; and knowing alſo that prejudices yet exiſt againſt this ſalutary improvement; I am induced to add my teſtimony to the maſs of evidence already brought forward; taking up this queſtion, indeed, from no perſonal motives, but for the intereſts of humanity, and to ſettle, as far as my humble ability will permit, the public mind, and to ſolicit, from the rulers of a generous nation, that reward to which ſo extraordinary a diſcovery is in juſtice entitled to.

The *firſt* PUBLIC INSTITUTION where the *cow-pock* was introduced was that over which I have the honour to preſide as phyſician, and the vaccine inoculation, as daily performed by me *gratis*

to

to every applicant at the ST. MARY-LE-BONE GENERAL DISPENSARY, was advertiſed at my expence frequently in the public papers, and otherwiſe made known by printed accounts and oral communications, ſo that the maſs of evidence derived from this ſource is very conſiderable: but I have rather preferred relating to the public *my experience* in *one ſpot*, as the evidence is in *a quarter* where the facts are concentered, their authenticity eaſily aſcertained, the concluſions from the number ſufficiently ſatisfactory, and as tending to ſhew, that the *general inoculation* of the *cow-pock* is not a *chimerical idea*, and the *extirpation* of the *ſmall-pox* an *improbable event*.—Whenever I contemplate this intereſting ſubject, I always ſmile within myſelf, by thinking, that as other wiſe men have found out interpretations for other hieroglyphicks, that in this I behold fulfilled the ſtory of ST. GEORGE, our tutular ſaint, *fighting*, and *overcoming* the DRAGON.

From viſiting the Marquis of Exeter at Burghley, near Stamford, I proceeded on profeſſional duty, to Raby caſtle, in the North Riding of Yorkſhire, the ſeat of the Earl of Darlington, and from thence went to the Earl of Lonſdale's at Lowther, in Weſtmoreland. In this excurſion I found the cow-pox was a diſeaſe equally unknown to profeſſional men as to the inhabitants of thoſe quarters; and the following circumſtance led to its firſt eſtabliſhment in the Northern Counties.

Soon after my arrival at *Lowther*, after having

firſt

firſt had the honour of being ſhewn by his Lordſhip the wonderful proſpects ſurrounding this old illuſtrious ſeat of great and diſtinguiſhed characters, I was taken to *Lowther-town* to ſee the manufactories eſtabliſhed there by his Lordſhip. Here I was ſhewn carpets, worth from three to four hundred pounds, which excel in taſte and workmanſhip the Bruſſels; and here it is, that more than an hundred orphans taken out, and apprenticed to his Lordſhip, from the Foundling Hoſpitals of London and York, have found a peaceful protection, and are inſtructed in labour by the ſuperintendent Mr. Bloom, who is furniſhed by his Lordſhip with all the materials for theſe uſeful and ornamental labours, and has a yearly ſalary affixed for conducting the whole, and a piece of ground allotted for the cultivation of flowers, in order that the embelliſhments of theſe elegant productions of art may be faithful tranſcripts from nature, with permiſſion alſo to keep a few cows in his Lordſhip's park.—A manufactory of woollen ſtockings of exquiſite workmanſhip is likewiſe carried on in the ſame place by Mrs. Bloom.

Being myſelf a parent, I could not fail to notice at the manufactory a lovely little boy, who with native ſweet ſimplicity ſeemed "unheedful" of the company he was in, and was in all kinds of anticks. This child appeared to be, and was in fact, a very great favourite of his grandfather and grandmother, the ſuperintendents of the manufactory, and he was the more endeared to Mrs. Maſon, his

fond

fond and virtuous mother, from having a conſtitution naturally weak from his birth, and as being the firſt and only pledge of her huſband, who had been then abſent from her (from cauſes I have neither inclination, or wiſh, to inquire into, or unfold) for upwards of three years.

The anxious thought of the whole family was how they could ſecure this favourite child from the natural ſmall-pox; hence he was always kept in ſight, nor would they have ventured with him to the village of Lowther, or any of the neighbouring towns, for the world: nor, indeed, were ſuch apprehenſions altogether groundleſs; for, not many years back, the ſmall-pox had broken out in *Lowther-town*, when the blackſmith, his ſiſter, and two ſervants of his Lordſhip, and the ſon of the park-keeper, were ſwept off by that dreadful peſtilence, one only out of ſix ſurviving!

His Lordſhip, knowing the apprehenſion entertained by theſe people, propoſed to me that Maſter Maſon ſhould be inoculated with the cow-pock, and, with his Lordſhip's natural condeſcenſion and goodneſs, explained in a clear manner the difference between the two ſpecies of inoculation, and the ſuperiority of the one over the other.

The propoſal was gladly embraced, and I was deſired by his Lordſhip to ſend for vaccine matter from London, and through the favour of Mr. Ring, who with the moſt laudable zeal has been indefatigable not only in propagating himſelf this inocula-

tion, but in furniſhing opportunity for others to do the ſame, by freely ſupplying medical gentlemen with vaccine matter to all parts of the world, I ſoon procured from him on ſeveral lancets the means of of carrying this intention into execution. Accordingly, October 4, 1800, I inoculated DANIEL JAMES BLOOM in both arms.

As Mr. Bloom is a very intelligent man, I requeſted him to remark the ſymptoms ariſing from the cow-pock, and to draw up a ſtatement of particulars, which he did as follows.

" The EARL OF LONSDALE accompanied by Dr. Thornton, as they were going out an airing, honoured me with their preſence, when the NOBLE EARL witneſſed the firſt inoculation of the cow-pock in this country, which was performed by two punctures juſt piercing the ſkin, ſo as to fetch no blood, the end of the lancets being firſt moiſtened with ſaliva, and the cow-pock matter mixed with it by means of the two lancets being rubbed at the points againſt each other. At the end of two days there appeared a little redneſs where the cow-pock matter was inſerted, and on the third day there was a pimple like a flea-bite, which increaſed in ſize until it loſt its pimple-like appearance, which was about the eighth day, and became like a puſtule of the ſmall-pox, the ſides diſtending, and the top flattening, when a red circle of inflammation, reſembling the burr of the moon in a miſty night, appeared, and the fleſh around the puſtule was as hard as any

boil whatever, and ſeemingly as much diſtended, and inflamed. On the ninth day I became rather alarmed, the child began to droop in the evening, his eyes looked heavy, he felt ſick, but could not vomit, complained of head-ach, grew to be very hot, was very reſtleſs, and paſſed a feveriſh night. The ſymptoms abated towards morning, but returned the following evening, but much ſlighter; and on the following day he was cheerful and as well as ever. The puſtule had turned, it became a hard brown ſcab, commencing in the middle, and ſo extending itſelf over the whole puſtule. The florid inflammation was converted into a faint purple. The ſkin by the thirteenth day ſurrounding the puſtule became white, and next peeled off. The tenſion and hardneſs of the arm diminiſhed, and the pain and ſmall ſwelling under one arm-pit by the fifteenth day was quite gone.—The inoculation only took place in one arm, and when the ſcab came away it left a deep-pit, as with thoſe inoculated for the ſmall-pox."

The following queries were made to Mr. Bloom.

Qu. What is the age of your grandſon?
Anſ. Four years and a half.
Qu. Is he healthy?
Anſ. On the contrary; he is a very ſickly child.
Qu. Did the inoculation produce puſtules?
Anſ. None, except the one on the arm.
Qu. Had he fever in conſequence?
Anſ. A conſiderable degree of fever.

Qu. On

Qu. On what day after inoculation did this fever come on?

Anſ. On the ninth day.

Qu. Had he any tumour under the axilla?

Anſ. Stiffneſs and pain in that part, and a gland was felt there enlarged to the ſize of a pea.

Qu. Was his health impaired?

Anſ. He appeared not in the leaſt to have ſuffered from the inoculation.

Qu. Was he inoculated ſince?

Anſ. Being ſo certain that he was ſecure from the ſmall-pox by the vaccine inoculation from what I ſaw, I refuſed to have him inoculated for the ſmall-pox, as I could not ſee it would anſwer any uſeful purpoſe, the evidence of the fact from the inoculation at the village of Lowther being ſufficient to convince every reaſonable mind.

The miſtreſs of the inn at Crackenthorpe, having heard of his Lordſhip's kindneſs to Mr. Bloom's family, and wiſhing to avail herſelf of a ſimilar advantage, petitioned his Lordſhip, whoſe tenant ſhe was, to have her children likewiſe inoculated with the cow-pock, being ſeven in number, and they were accordingly all inoculated from Maſter Maſon.

I had the following anſwer to the queries by an apothecary, who carefully watched the ſymptoms.

CHARLOTTE IVES, æt. 9.

Qu. How many puſtules?

Anſ. One.

 Qu. Any

Qu. Any fever?

Anſ. Very ſlight.

Qu. What were the ſymptoms?

Anſ. A Degree of heat on the ſkin, and want of appetite, with a ſenſe of wearineſs.

Qu. How long did this continue?

Anſ. One night, and the following day.

Qu. At what period after inoculation did it come on?

Anſ. On the ninth day.

SOPHIA, æt. 6.

Qu. How many puſtules?

Anſ. One.

Qu. Any fever?

Anſ. Very ſlight.

Qu. What were the ſymptoms?

Anſ. As the other, but with ſome thirſt.

Qu. On what day after inoculation?

Anſ. On the ninth, but rather earlier in the day than her ſiſter, more reſtleſs at night, but the next day was as well as ever.

Qu. Any ſwelling under the arms?

Anſ. None.

LYDIA, æt. 2 years.

Qu. How many puſtules?

Anſ. One.

Qu. Any

Qu. Any fever?
Anſ. None.

HENRY, æt. 1 year.

Qu. How many puſtules?
Anſ. One.
Qu. Any fever?
Anſ. No complaint whatever.

JOHN, æt. 10.

Qu. How many puſtules?
Anſ. One.
Qu. Any fever?
Anſ. A conſiderable degree, which came on the eighth day, aggravating a ſevere cold caught at this time; complained of great head-ach, and he had a troubleſome cough which continued a fortnight, but he got well of this, and was as well afterwards as before inoculation.
Qu. Any ſwelling under the axilla?
Anſ. None.

JAMES, æt. $7\frac{1}{2}$.

Qu. How many puſtules?
Anſ. One where the inoculation was, and a ſmaller one that roſe regularly about two inches from the other.

Qu. Any fever?

Anſ. The fever ſeemed to be much in his head; he had thirſt, great laſſitude, and this continued for two days and two nights.

Qu. On what day after inoculation did this come on?

Anſ. The tenth day.

Qu. Any ſwelling under the axilla?

Anſ. One, the ſize of a pigeon's egg, under the right arm-pit, which appeared on the ninth day, increaſed for three days, then gradually diminiſhed, and, at the end of the week, diſperſed.

Qu. Was this tumour painful?

Anſ. It produced a ſtiffneſs, and gave, upon motion, ſome uneaſineſs.

OBSERVATIONS.—In theſe *eight* caſes the reader has the common phænomena of the cow pock inoculation. Two out of eight were free from fever. The fever, however, was rather more conſiderable than uſually ariſes from the vaccine inoculation, the period of its arrival was from the eighth to the tenth day, but, as being unaccompanied with danger, it claims, as the tooth-ache, little regard with the medical practitioner. There was no general eruption in any of theſe caſes. The ſolitary puſtule near the inoculated one in a ſingle inſtance is a circumſtance that may, perhaps, occur once in ſeveral hundred trials. Two patients had an affection under the axilla, a gland there being enlarged. This circumſtance is not unuſual; but as being unattended

tended with danger, and only a temporary uneaſineſs, is of trifling conſideration. In the *firſt caſe*, a ſickly child, much affected with worms, was inoculated with the cow-pock. He is rendered thereby ſecure from the ſmall-pox ever after. All the parents' fears about the child were inſtantly diſperſed. The probability in this caſe, had he been inoculated with the ſmall-pox, is, judging from example, (but to ſuch inoculation the parents I am perſuaded never would have conſented,) that he would have died, or his conſtitution been ſo much impoveriſhed, that he would have lingered out a very painful exiſtence.—In the *other inſtances*, I need not ſtate, what would be the diſtreſs at an inn from ſo many labouring under the ſmall-pox, the anxiety it muſt have created, the trouble, and the ſuſpenſion for a time of part of the buſineſs of the houſe. The ſuppoſition of death with theſe patients, and other miſeries, will not here enter our calculation.

Inoculation of the village of LOWTHER.

We haſten now with pleaſure to the inoculation of the *Village of Lowther*. This is a moſt pleaſant picturesque village, ſituated two hundred and eighty miles from London, ſeven miles from Penrith, and a mile from the ancient famous manſion of Lowther, and was built by the preſent Earl of Lonſdale, in the Italian taſte, is regularly ſaſhed, contiguous, from two to three ſtories high, each houſe being of ſtone,

and, without doubt, is the moſt taſty village in the kingdom. It contains about four hundred inhabitants.

His Lordſhip, obſerving, with great acumen, the cauſe of the proſperity of the North of Ireland, after having built in this delightful ſpot a village unique of its kind, ſufficient to contain five hundred inhabitants, ſent over to Ireland for manufacturers of cloth to ſet the example of the true welfare of a nation. Here it is all his Lordſhip's linen, as table-cloths of damaſk, napkins of the ſame, towels, ſheeting, and long-cloth, in ſhort, every article of linen in uſe, have been fabricated, and no other is at preſent employed either at his Lordſhip's eſtabliſhment in London, or at Lowther. Beſides theſe manufacturers, all his Lordſhip's labourers reſide here, rent free, and are paid a regular ſtipend both ſummer and winter, and, however old, are paid equally as when they could exert their youthful ſtrength. It was with pleaſure that I witneſſed, in the winter, potatoes given as uſual, meat, and bread; and when any of the wives are near their time to be brought-to-bed, they ſend to Lowther for linen, and are allowed beer-caudle during the month. The villagers indeed generally lament that there is no public-houſe throughout the whole place; but his Lordſhip no leſs regards their temporal than their eternal welfare.

——————————Agricolæ
O fortunati nimium ſua ſi bona norint!
VIRG.

Hence

Hence it is that the village of Lowther exhibits what ſhould be the pride of Engliſh nobility, a fine healthy induſtrious peaſantry, ſupported by, and contiguous to, a rich domain.

Let the reader of ſenſibility contemplate the difference between that pride of nobility, which deſolates a country to extend a park, and that patriotic ſpirit, which, at a conſiderable expence, eſtabliſhes towns and villages, for the purpoſe of manufacture.

Every thing ſeemed to conſpire to render our experiment the moſt deciſive imaginable. His Lordſhip obſerving with a true patriotic eye, which looks beyond the *narrow* circle of *private* advantage, conſidering only the *public* welfare, had ſhewn himſelf adverſe to *partial* inoculation; hence the younger part of the whole village for upwards of twenty years were exempt from the ſmall-pox, and therefore liable to this diſeaſe.

As fortune would have it, during the period Daniel Maſon was under vaccine inoculation, one of the induſtrious little villagers, a lad aged nine or ten years, had picked up muſhrooms, which at that time were uncommonly abundant, and carried them for ſale to Penrith, unknown to his parents, where the ſmall-pox then raged, and had ſwept off a number of perſons. This child took, in conſequence, the natural ſmall-pox, and exhibited ſigns of it, when Daniel Maſon had juſt recovered; and Rose, æt. 9, the child of his Lordſhip's porter,

was

was in a right ſtate for propagating the vaccine inoculation.

It was now harveſt time in the north, both for hay and corn, and there was not to be an idle hand throughout the whole village. No language can expreſs the diſmay that was ſpread from this event. Amidſt this univerſal conſternation and dread of the ſmall-pox, ſeen by groups of old people anxiouſly converſing of the impending calamity, his Lordſhip ordered the glad tidings of a general inoculation with the *cow pock* to be proclaimed, the advantages of which were ſtated, had been ſeen, and were believed, and the whole aſſembly were ordered to appear in review at Lowther before his Lordſhip.

Upon going to ſee the child labouring under the natural ſmall pox, I found his face greatly tumified, not a feature to be diſcerned; blind, covered with puſtules from head to foot, the whole face was one ſmear of blood and gore, and the parlour he lay in being ſmall, the ſtench was ſo intolerable, that I was obliged ſoon to quit the room to hinder myſelf from being ſick. I propoſed inoculating the other two children with the ſmall-pox; but the mother was much prejudiced againſt inoculation, and had rather "truſt them to God's will," hence I foreſaw that I ſhould obtain a full completion of my views *.

The

* The ſmall-pox being a diſeaſe, whoſe laws are little known by the majority of people, I have endeavoured in this

The happy villagers now thronged to his Lordſhip's domain; and it was a moſt pleaſing ſight for me to ſee aſſembled at Lowther in the ſteward's room, in the preſence of his Lordſhip, ſo many perſons to whom I was about to render the moſt eſſential ſervice; at the ſame time I was enabled to

this pamphlet to inſert alſo the moſt prominent features of the ſmall-pox; and here, therefore, I would obſerve that infection only commences after the eruptive fever, and takes from ſeven to fourteen days before the ſeeds of this diſeaſe when ſown manifeſt themſelves: and this curious fact is the moſt frequent cauſe why ſome idly boaſt of being themſelves, or having children, proof againſt the ſmall-pox, and why all may eſcape the danger, which warns like the *rattle ſnake*, before it ſeizes on its prey. "Many inſtances," ſays the great and learned Dr. Heberden, "have occurred to me, which ſhew, that one who never had the ſmall-pox might ſafely aſſociate, and even lie in the ſame bed, with a variolous patient, for the two or three firſt days of eruption, without receiving the infection."

By comparing this obſervation with the facts contained in Dr. Haygarth's work on the ſmall-pox, it appears, that when one perſon is accidentally ſeized with the ſmall pox in a family where others are liable to it, the reſt may generally avoid the natural infection, either by ſeparation or immediate inoculation.

Maturation appears to be the ſeaſon when the variolous miaſms are emitted moſt copiouſly; the poiſonous pus being expoſed, at that period, naked to the air, according to the accurate deſcription of the faithful Sydenham. "Uſque ad hunc diem" octavum a primo inſultu "puſtulæ, quæ faciem obſederant, læves ad tactum fuere atque rubræ, jam verò aſperiores evadunt (quod quidem primum eſt incipientis maturationis indicium) et ſubalbidæ, paulatim inſuper *ſuccum* quendam luteum, colore a favo non abludentem, *evomunt*."

make

make the moſt deciſive experiments reſpecting a practice, which promiſed to be an epoch in the annals of medicine, and I flatter myſelf that the importance of the ſubject, and the preſent period of time, when Dr. Jenner's claim is before the Houſe, will be a ſufficient apology for my publiſhing the ſcattered obſervations I at that time made, and without the ſmalleſt view to their publication.

MEMORANDUMS.

1. Mary Bryham, æt. 20, is a *good-looking well-grown* girl, of a very florid complexion, the daughter of a groom of his Lordſhip's, William Bryham, who has ſuperintended his Lordſhip's ſtables upwards of forty-eight years. The arm roſe finely, puſtuled, and then ſcabbed, but there was not the ſlighteſt conſtitutional affection.

Observations on this case. Having paſſed through the vaccine diſeaſe (as far as regards the eſſential circumſtance, a proper puſtule forming itſelf, and going through its reſpective ſtages, which occupies a ſpace of from fifteen to twenty days,) I introduced her to where lay my wretched patients in the natural ſmall pox, one child was hardly recovered, and a ſecond was in a deplorable condition, blind, and at that time dreadfully moaning. I ſhall never forget the expreſſion of alarm manifeſted by the girl's countenance, ſhe having never ſeen

ſeen this diſeaſe before. The blackneſs had not quite worn off the face of *one*, a *ſecond* was at its height, and a *third* ſickening; and if fear increaſes the predispoſition to take infection, there was no want of this here *, and with the utmoſt difficulty I could get her to come near theſe children; but having, after much perſuaſion, the firſt ſurpriſe being over, conſented to let me inoculate her plentifully with the variolous matter in both arms, ſhe afterwards was induced to touch the children labouring under the ſmall-pox with her hands, and catch their breath, but to no purpoſe, for having had the cow-pock, ſhe was inſuſceptible of the ſmall-pox, in whatever way attempted to be given; ſhe was indeed *proof* againſt this diſeaſe, as much, if not more ſo †, than if, inſtead of the cow-pock, ſhe had had the inoculated ſmall-pox.

* Beſides the horror of the ſcene, *another cauſe* might have conſpired. There lives in the ſame village along with her, ANN ROPER, the daughter of her mother's ſiſter, and this girl was ſo dreadfully ſcarred by the SMALL-POX, that ſhe was rendered, to uſe the vulgar phraſe, a *perfect fright*; ſhe was ſaid before to have been a *bonny laſs*, and I might add, that ſhe has from the ſame cauſe a ſpeck over her right eye, of which ſhe is blind.

† For there are a few authenticated caſes of perſons having had twice the ſmall-pox, but I ſhould doubt ſuch facts, unleſs for *the authorities:* but rather than believe them, may I not be allowed to ſay "humanum eſt errare."

2 & 3. THOMAS

2 & 3. THOMAS NICHOLSON, æt. 6, and JOHN, æt. 1, his brother, a child at the breaſt, paſſed through this diſeaſe, as is common. On the eighth day the acceſſion of fever came on, rather ſtronger marked than uſual, the ſymptoms of which were heavineſs, a want of appetite, diſinclination for food, an increaſe of heat, the ſleep at night reſtleſs. Sometimes theſe ſymptoms, eſpecially with infants, are accompanied with nauſea, and actual ſickneſs; but theſe in a day or two paſs off, and the patient is left in perfect health. There was no eruption in either of the two caſes.

OBSERVATIONS. The firſt reflection that muſt naturally ſtrike the reader is, that the child who was in arms, labouring under the cow-pock, did not communicate this diſeaſe to the mother, who never had had the cow-pock, hence this diſeaſe is not infectious; ſecondly, being next door neighbours to the Smiths, and after the cow-pock had ſcabbed, being permitted to viſit their former playmates, that they had reſiſted the ſmall-pox. Beſides this chance, they were each inoculated by me plentifully with the ſmall-pox matter; and not ſatisfied with this, I had them put *naked into bed* * with their neighbour's child covered with

* The examples of this ſort, furniſhed by my practice as Phyſician to the Mary-le-bone Diſpenſary, are extremely numerous. I ſhall mention, however, only a very few ſtrong caſes,

with maturated puſtules; but it was all to no purpoſe, they were rendered by the cow-pock inſuſceptible

caſes, thinking that more would be needleſs and tireſome to the reader.

Two years back I inoculated JOHN KING, æt. 3, and THOMAS, æt. 1½, children of the publican, who lives in Margaret-ſtreet, at the corner of Great Portland-ſtreet, with the cow-pock, and they ſcarcely ailed any thing. Mr. King's niece not long after came out of the country, and on her arrival in town fell ill of the natural ſmall-pox, and had them very full. John King *ſlept* with her the whole time; they both were with her in the day; and the mother relates that, frequently ſince, they have been in company with children labouring under the ſmall-pox, never wiſhing them to avoid it. And to complete the deciſiveneſs of this fact, I had them both, at two ſeparate times, inoculated for the ſmall-pox; but having had the cow-pock, they were rendered thereby inſuſceptible of the ſmall-pox.

I inoculated JOHN, THOMAS, and WILLIAM PLANT, who live in Edward-yard, Edward-ſtreet, and they had the cow-pock the uſual mild way; a fourth child was inoculated with the ſmall-pox, and a plentiful crop of puſtules were produced. The children being in the ſame houſe, eat, drank, and were conſtantly together, but no infection took place. I then inoculated theſe three repeatedly with the ſmall-pox: but they were found ever to be *proof* againſt that diſeaſe.

ELIZABETH RESTIEAUX, living at 38, Caſtle-ſtreet, Oxford-market, was inoculated by me three years ago, and had the cow-pock in the uſual mild way. A year after this ſhe was in the ſame houſe where there were three children who were ſeized with the natural ſmall-pox in a very bad manner, and ſhe was conſtantly with them, and has ſince been taken repeatedly to houſes at my inſtigation in which the ſmall-pox was;

ceptible of the ſmall-pox in whatever way attempt-
to be given.

4, 5, & 6. JOHN HUTCHINSON, æt. 9, WIL-
LIAM,

was; and ſhe has alſo been inoculated by me twice with the ſmall-pox and once with the cow-pock, at different intervals, but without theſe producing the ſmalleſt effect more than a ſlight ſcratch from a lancet.

MARGARET PITCHET was inoculated by me two years ago. Some months after ſhe had had the cow-pock, a child in the ſame houſe, No. 8, Duke's-court, Bow-ſtreet, took the natural ſmall-pox, and was covered with puſtules from head to foot. Theſe children were together as uſual: but no ſmall-pox was communicated; and having inoculated her at leaſt a dozen times ſince, at different periods, I found her in every inſtance *proof* againſt the ſmall-pox.

MARY, ROBERT, THOMAS, and ALEXANDER ROUTLEDGE, living in St. Ann's-court, were inoculated by me for the cow-pock. MARY was *purpoſely* ſent to a relation's, whoſe child had juſt taken the natural ſmall-pox, and continued there three weeks, but never caught the ſmall-pox, having previouſly had the cow-pock. A lodger in the ſame houſe refuſing to have her two children inoculated with the cow-pock at this time, a few weeks after, loſt both by the natural ſmall-pox.

Mrs. HUTCHINGS, houſekeeper of the Rev. Mr. Townſend, author of the "Guide to Health," having come to live in town with her huſband, had her child inoculated by me with the cow-pock; with this child in her arms ſhe nurſed a friend's child labouring under the natural ſmall-pox, who with difficulty recovered from it; nevertheleſs her infant did not take the ſmall-pox, having previouſly had the cow-pock.

The ſame was the caſe with Mrs. BRITAIN, No. 3, Pit-ſtreet, whoſe child eſcaped the ſmall-pox from having had the cow-
pock,

LIAM, æt. 7, and THOMAS, æt. 2, went properly through the ſeveral ſtages of the cow-pock puſtule. JOHN and THOMAS had an acceſſion of Seven on the eighth day. WILLIAM ailed nothing.

OBSERVATIONS. Theſe were next door neighbours to the Smiths, on the right, and being ſuffered to enter the houſe of their old playmates after the *cow-pock* had ſcabbed, they were expoſed to the contagion of the ſmall-pox for hours together; they were alſo plentifully inoculated by me for the ſmall-pox, but were all three inſuſceptible of that diſeaſe.

7. THOMAS JOHNSON, æt. 13, was inoculated like the reſt in the arm. The occupation of this lad was to drive a cart, uſually in company with his father, for the Earl of Lonſdale, and going to Penrith on the fifth day after inoculation, he drank a pint of ſtrong-beer given him by one Pellet, at Mr. Hutchinſon's brewery, and came back that ſame day with his team, having walked upwards of fifteen miles, in conſequence there was an attempt towards forming a kind of eruption, one puſtule appearing on the breaſt, and another on the

pock, although two children died of the natural ſmall-pox, at the next houſe, to which her child was often taken.

Two of my own children, CHARLES, and ANNA MARIA, who were inoculated by Dr. Jenner for the cow-pock, and ailed nothing but the puſtule on the arm, were both afterwards inoculated by me for the ſmall-pox, but without its producing that diſeaſe.

cheek, which actually ſcabbed over, and he paſſed a reſtleſs and feveriſh night, and continued feveriſh the next day and night, after which he was able to drive his team and three horſes as uſual, and being inoculated by me with the ſmall-pox matter, and frequently expoſed to the influence of the ſmall-pox in the houſe of the Smiths, he was found unſuſceptible of that diſeaſe.

Observation. What would have been the conſequence of ſuch imprudence under variolous inoculation as was exhibited in this caſe I leave to the conjecture of the ſenſible reader! The appearance of a couple of puſtules, and theſe maturating, is a very rare occurrence; for this diſeaſe is almoſt invariably confined to the inoculated puſtule, and moſt probably aroſe from his blood being overheated by the beer and exerciſe.

8. Maria Johnson, æt. 16, his ſiſter, had the cow-pock without any accompanying fever.

Observation. She was inoculated twice for the ſmall-pox, and rubbed her hand over Smith's children, and was frequently in the infected houſe, but was found unſuſceptible of that diſeaſe.

9. William Hodging, æt. 13, was inoculated in both arms; the puſtule took, however, only in one. He is carpenter to the Earl of Lonſdale, and works with his father in the raff-yard. On the ninth day he had an acceſſion of fever, but not ſo much as to make him leave off work.

Observations. This youth lives but two doors

from the infected houſe, was taken by me into this houſe, and brought ſo near to the children as to receive their breath, and at ſeven different times was inoculated both for the ſmall-pox, and as many times for the cow-pock, but having had the latter deceaſe, no proper puſtule roſe, performing its regular ſtages, or exciting the leaſt conſtitutional affection, and hence he may be ſafely declared unſuſceptible of either diſeaſe.

10. Mary Henley, æt. 14, was inoculated alſo in both arms. It took effect in both places, and the puſtule on the left arm roſe finely, and did extremely well; but that on the right arm got rubbed by ſome means, formed itſelf into an ugly ſcabby ſore, producing real pus under it, and as faſt as the ſcab came away, it formed a larger ſore, very deep, and was a very troubleſome wound for more than ſix weeks, the ſcab filling up the place, extending to nearly the ſize of half a crown; and this would have been ſet down as an untoward caſe of vaccine inoculation, depending upon ſome peculiarity in the conſtitution, unleſs fortunately we had inoculated both arms, and the one had done ſo kindly. She had no fever, or any conſtitutional affection. Was taken into the houſe, where the natural ſmall-pox was, and inoculated then, and ſeveral times after, but to no purpoſe; ſhe was unſuſceptible of the ſmall-pox.

11. Maria Fry, æt. 7, had one pock, the fever was of one day and night's continuance, and her

father deſcribed her "as burning like a coal, ſick, but not to vomit, and as rambling in her ſleep."

Obeservations. When ſhe had gone through the cow-pock I made a double experiment; I inoculated her with the ſmall-pox, and at the ſame time her ſiſter Charlotte, æt. 15, who had had the ſmall-pox when ſeven years old, and was terribly disfigured by it, with the cow-pock; and, contrary to my expectations, there was a puſtule formed in Maria Fry's arm, and a general conſternation took place among the villagers; but upon examination, there was no bur of inflammation round it, no hardneſs, no regular puſtular riſing; it ſcabbed on the fourth day *, and produced no conſtitutional diſeaſe, or any puſtules, the cow-pox in Charlotte Fry died away like a common ſcratch.

It may not be irrelevant to mention here, that Jane Mattinson and Mary Dunn, both preſented themſelves to be inoculated, but from their own account it was more than probable they had had the ſmall-pox. The former had nurſed a child

* In a few inſtances where a puſtule has been formed of either kind, the progreſs was found to be very different from the true puſtule, and this kind, like a ſeed ſown on ground, or in a climate, not congenial, came forward, and ſoon paſſed off, whereas the other has its regular ſtages of riſing, falling and ſcabbing. Thoſe who have the baſtard puſtules, if I may ſo call them, have complained of much *itching*, which I have not obſerved in the other ſorts, and at the end of ten days the puſtule was gone without leaving behind the uſual large and deep ſcar.

who

who died of that diſeaſe; it was the child of his Lordſhip's park-keeper before mentioned. At the ſame time I inoculated theſe with the cow-pock, I alſo inoculated the brother of Mattinſon, a young man who was dreadfully ſcarred and marked with the ſmall-pox, and JAMES BROOM, who had alſo the marks of that diſeaſe; and theſe were done with both ſorts, but in each inſtance there was only produced a ſlight temporary local irritation, and both places before the fourth day died away. It appears, therefore, from theſe and other facts, that thoſe who have had the cow-pock are inſuſceptible of the ſmall-pox, and *vice verſa*.

12. RICHARD WALKER, æt. 24, carpenter, on the ninth day was attacked with a fever, was light-headed, wanted to get out of bed, the next day, the tenth was enabled to do ſome work, could not work much, had the fever return at night, after which he ailed nothing, continuing his labour as uſual all the while, except on the one day mentioned. Inoculated with both the cow-pock and ſmall-pox, but neither took effect.

13. HARRIET FLETCHER, æt. 18, had only one puſtule, and ſays ſhe was able to follow all her domeſtic concerns as uſual, never being laid up a ſingle day. Inoculated with the ſmall-pox, but was found like the reſt, inſuſceptible of that diſeaſe.

14. JOHN SAUNDERSON, æt. 10, had one puſtule and ailed nothing, his brother

15. JOSEPH SAUNDERSON, æt. 7, had a fever for

two days and nights, was hot and reſtleſs, the fever came on on the ſeventh day. Both were inoculated with the ſmall-pox, but without effect.

16. William Patterson, æt. 9, had one pock, alſo a ſmall one underneath, which came out a few days after the other, feveriſh two days and nights, the fever commenced on the ninth day. Inoculated with the ſmall-pox, but it took no effect.

18. Hannah Mandle, æt. 2, had one pock, never ailed any thing.

19. Mary Falofield, æt. 11, one pock, feveriſh on the eighth and ninth nights, but played in the interval.

20. John Henley, æt. 16, one pock, never ailed any thing.

21. Hannah M'Cran, æt. 9, one pock, never ailed any thing.

22. Sarah M'Cran, æt. 7, one pock, and another came out an inch below it, which was much ſmaller, and which went in ſtages, and ſcabbed like the other; ailed nothing.

23. Thomas Richardson, æt. 4, one pock, no fever.

A particular observation. He is terribly ſcarred in the face and body, a year before, his clothes catching fire, when the child was nearly burnt to death.

General observation. Theſe ſix having had no perceptible conſtitutional affection, they were inoculated again with the cow-pox, but this took no effect,

effect, alſo with the ſmall-pox, but they were likewiſe proof againſt both.

THE CONCLUSION or INFERENCE.

Fearful that continuing the ſame monotony would only fatigue my readers, and imagining to urge more facts might be conſidered as an inſult even to the meaneſt comprehenſion, I ſhall therefore juſt ſum up, that *forty-eight* inhabitants of the village of Lowther, of different ages, who had never had the ſmall-pox, were inoculated by me for the cow-pock, and having paſſed through this diſeaſe without riſk or danger of life, or perſon, that they were nearly all, at leaſt the majority, inoculated afterwards at two remote periods for the ſmall-pox, and expoſed to its infection by being brought into the room where the ſmall-pox was, but in not a ſolitary inſtance did any receive this diſeaſe. Such an eſcape in ſuch a number cannot poſſibly be attributed to any peculiarity of conſtitution; but it muſt be allowed to the true cauſe, the preventive influence of the cow-pock. This law amounts therefore to an abſolute certainty, or demonſtration; for whence do we form the notion that fire burns the fleſh? My perſonal experience and traditional report does not approach to half the number of inſtances reſpecting the preſervative power of the cow-pock, nor has indeed any one a more ample or better ground for be-

lieving that cork ſwims. To diſbelieve *now* the efficacy of the cow-pock, muſt therefore ariſe either from IGNORANCE or PREJUDICE; and indeed there are reported to be even *at this time* a few doctors, who do not credit the thing, but I flatter myſelf, this report is unfounded, for an ignorant doctor is a *miſnoma*; and reſpecting vulgar prejudices * theſe mental miſts will, it is hoped, ſoon vaniſh before the clear ſunſhine of truth.

PROGRESS OF THE VACCINE INOCULATION IN THE NORTH.

From ſuch demonſtrative evidence of the ſuperior advantages of the cow-pock, the Counteſs of DARLINGTON, daughter to the Ducheſs of Bolton, who is ſiſter to the Earl of Lonſdale, had her laſt child inoculated with the cow-pock, although Lord Barnard and four other children of the Earl of Darlington had had a mild diſeaſe from the ſmall-pox inoculation. Colonel LOWTHER, Member for the county of Weſtmoreland, who was with his Lordſhip, had a child of his inoculated with the ſame, although he had ſeven before inoculated with the ſmall-pox; and Colonel SATTERTHWAITE, member for Cockermouth, a borough of his Lordſhip's, being at Lowther, having lately loſt a grand-child by ſmall-pox inoculation was rejoiced to embrace this opportunity, and had vaccine matter from me ſent to

* Theſe prevail more in the South than in the North.

his

his ſon-in-law, Dr. Head; Captain PRESTON of Warcop, coming to Lowther, followed the example, mentioning "that the reaſon why he had not had his child before inoculated with the ſmall-pox, was the fear of bringing this diſeaſe into his village." And ſuch indeed was the general conviction of the *country people* of the efficacy of the cow-pock, (namely, its power of rendering the conſtitution inſuſceptible of the ſmall-pox, and that it was a diſeaſe infinitely milder than the ſmall-pox, never killing, not infectious, and giving little or no trouble) that the whole country around Lowther came to ſolicit a participation of the benefits reſulting from the cow-pock, and on ſeveral days I was engaged in inoculating to the amount of 110 * perſons, Mr.

* SPECIMEN OF ONE DAY'S INOCULATION, THE NAMES BEING OBLIGINGLY TAKEN DOWN BY MR. STOREY.—Ann Davidſon, æt. 23; John Pearſon, æt. 2; Chriſtopher Thompſon, æt. 3; Hannah Lancaſter, æt. 1½; George Sanderſon, æt. 4; John Powley, æt. 5; William Powley, æt. 6; Chriſtopher Stephenſon æt. 17; *from Great Strickland.* William Rigg, æt. 4; Mary Rigg, æt. 6; *from Little Strickland.* Henry Hodging, æt. 3; Joſeph Hodging, æt. 1; *from Pattindale.* Elizabeth Jackſon, æt. 15; John Jackſon, æt. 19; James Jackſon, æt. 15; Mary Jackſon, æt. 8; William Jackſon, æt. 4; Iſabella Scott, æt. 11; Jane Wilkinſon, æt. 18; Richard Mounſey, æt. 2½; John Mounſey, æt. ½; *from Martindale.* Joſeph Ireland, æt. 3; John Shepherd, æt. 10; *from Newton.* Sarah Robinſon, æt. 14; Joſeph Robinſon, æt. 12; Mary Robinſon, æt. 10; Hannah Robinſon, æt. 8; Elizabeth Robinſon, æt. 6; Ann Robinſon, æt. 4; Thomas Robinſon, æt. 1½; William

Mr. STOREY, his Lordſhip's apothecary, kindly aſſiſting me in this work of humanity.

It

liam Thompſon, æt. 5; *from Barton.* John Nelſon, æt. 8; Henry Nelſon, æt. 6; William Nelſon, æt. 4; *from Whale.* Peggy Ballentine, æt. 2½; *from Knipe.* Mary Hayton, æt. 3; Andrew Harding, æt. 2; *from Aſhham.* Eſther Wilſon, æt. 2; Eſther Coulthard, æt. 6½; George Coulthard æt, 4; William Wilſon, æt. 18; Jane Wilſon, æt. 1; *from Penruddock.* Sarah Coalſon, æt. 5; *from Cleborn.* Mary Graham, æt. 2; *from Hachthorp.* Sarah Nicholſon, æt. 1½; John Nicholſon, æt. 3½; Hannah Parker, æt. 16; John Dalton, æt. 4; Joſeph Dalton, æt. 1½; Francis Moor, æt. 28; Mary Tours, æt. 5; Wilſon Tours, æt. 2; Eſther Todhunter, æt. 8; Joſeph Todhunter, æt. 14; Nelly Todhunter, æt. 10; *from Spartnit.* Ann Wilſon, æt. 24; Mary Wilſon, æt. 4½; Sarah Parker, æt. 19; Mary Jackſon, æt. 28; *from Thackthet.* John Fidler, æt. 6; Lucy Fidler, æt. 4; Ann Fidler, æt. 2; Thomas Fidler, æt. ¾; *from Roan.* Francis Hodgſon, æt. 42; Thomas Hodgſon, æt. 14; Richard Hodgſon, æt. 12; Mary Hodgſon, æt. 11; John Hodgſon, æt. 1½; John Docher, æt. 2; George Davidſon, æt. 2; *from Newton.* John Sewell, æt. 2; *from Bolton Moor.* Robert Watſon, æt. 3; *from Wainſton.* Ann Forſter, æt. 18; *from Milkenthorp.* William Pooley, æt. 10; Richard Pooley, æt. 6; *from Barton Church.* Joſeph Jackſon, æt. 20; *from Thackthwaite.* John Morland, æt. 8; Mary Moreland, æt. 6; Jenny Morland, æt. 4; Thomas Morland, æt. 1; *from Swindale.* John Waterhouſe, æt. 13; *from Dacre.* Barb. Dodd, æt. 8; Elizabeth Dodd, æt. 5; Ann Dodd, æt. 2½; Jane Robinſon, æt. 2; *from Morland.* William Brown, æt. 1; Francis Brown, æt. 2; William Newton, æt. 1; *from Newbiggin.* Francis Walker, æt. 2; Margaret Teaſdale, æt. 1½; Elizabeth Teaſdale, æt. 4; John Caſtlow, æt. 15; Sarah Caſtlow, æt. 12; Elizabeth Caſtlow, æt. 10; William Jackſon, æt. 13; Elizabeth Howgarth, æt. 19; Bella Howgarth, æt. 15; Agnes Howgarth,

It was a moſt charming ſight to behold the fineſt peaſantry in the world aſſembled at Lowther for the purpoſe of having themſelves, or of giving the cow-pock to their children, to ſecure them ever after from the horrid ravages of the ſmall-pox; and ſuch was the courage diſplayed, that out of 110 perſons mentioned in the note as inoculated in one morning, I do not recollect ſeeing more than one frightened at the ſight of the lancet, nor were the fears of this child communicated to the reſt. So thronged were the carts and waggons and horſes loaded with the rich treaſures of the country, that, as at fairs, there were women who came to Lowther with cakes and fruit, and the turnpike man deſired I would go through his gate toll-free, ſaying, " he had never

garth, æt. 12; *from Roſſgill.* William Wills, æt. 3; Jane Wills, æt. 4; John Nicholſon, æt. 5; Thomas Nicholſon, æt. 6 weeks; *from Soenbridge.* Jane Sinton, æt. 36; *Penrith.* The reader will find the number of inoculated perſons on this morning, to be 110, from 6 weeks old to 42 years of age, and when the queſtion was aſked, whether they would have come in ſuch numbers to have the ſmall-pox? there were very few, who did not declare, that they diſliked the ſmall-pox, each aſſigning different reaſons: but the principle objection was, " they had known ſuch, and ſuch, *die* from the inoculated ſmall-pox," and " that they could not *ſpare the time* to attend upon a ſick family," and ſeveral ſmilingly ſaid, " they could not *afford to pay for it*;" nor did a ſingle individual expreſs the ſmalleſt diſtruſt of the virtue of the cow-pock, but all received the inoculation both *cheerfully*, and *thankfully!*

had

had ſo many people paſs his gate before." The number inoculated by me at Lowther, amounted in all to above a thouſand, and calculating what others have done from my example, I ſhould ſuppoſe that the number muſt have riſen ſince to many thouſands.

Sir JAMES GRAHAM of Netherby near *Long-Town*, on the borders of Scotland, being much indiſpoſed, came to the Earl of Lonſdale's at his Lordſhip's deſire, on purpoſe for my advice, and having witneſſed the good effects of the cow-pock, he took matter back with him to have his nephew (the child of the Rev. Mr. Graham, the rector of Arthuret) inoculated, and that he might extend this bleſſing to his tenantry *. Of the pleaſing reſult of this caſe I have the ſatisfaction of laying the following letter before my readers.

" Dear Sir,

" I have had the pleaſure to receive your kind letter. My little boy has had the cow-pock ſo very favourably, that little or no fever has attended the complaint, if any; it was very trifling on the eleventh

* Sir James Graham, M. P. is a baronet of equal philanthropy and urbanity, married to the daughter of the Earl of Galloway, and is ſaid to have the beſt concentered eſtate in the kingdom, the whole of Netherby being his poſſeſſion, and this one eſtate yielding 12,000 per annum.

night;

night; *ſeven* children were inoculated from him yeſterday. I am happy to hear Lord Lonſdale is better, and hope you will ſoon reſtore him to perfect health; I beg my reſpects to his Lordſhip. My brother is conſiderably better from your ſkilful advice.

" I am, dear Sir, with great eſteem,

" Your's, moſt faithfully,

Arthuret, " FERGUS GRAHAM.
Nov. 24, 1800.

" P.S. The inflammation on the arm was about the ſize of a ſhilling."

I was equally anxious to eſtabliſh the cow-pock at *Carliſle*, which is ſituate but nine miles from Long-Town, and Dr. HEYSHAM, an eminent phyſician of that city, propoſed ſetting the example by having his own child, only ſix weeks old, inoculated; but my firſt attempt failed, as the following letter ſhews.

Carliſle, Nov. 1, 1800.

" Dear Sir,

" I received your very obliging favour on the 23d ult. and delayed anſwering it till now that I might have it in my power to acquaint you with the reſult. Agreeable to your advice the infant was inoculated

inoculated with the lancet the very day it arrived. The operation was performed by a ſurgeon who is much in the habit of inoculating, and who did it very neatly, and without drawing blood; and the lancet was wiped on the part agreeable to your directions, notwithſtanding which, I am ſorry to inform you, no effect has been produced. Had ſhe fortunately received the infection, ſeveral of my friends were diſpoſed to have had their children inoculated from her, and the practice, I have no doubt, would ſoon have become *general* in this neighbourhood."

"I ſhall incloſe the lancet in this letter, and flatter myſelf you will have it in your power to return it in a few days, loaded with freſh matter, and the child ſhall be inoculated again, and I hope with more ſucceſs."

"If, however, you cannot favour me with recent matter, I will make the experiment with the old which you ſent upon the cotton thread; but I ſhould greatly prefer freſh, becauſe if it ſhould fail a ſecond time, it might be the means of diſcouraging the practice, which I feel very anxious to promote."

"I am, dear Sir, with great reſpect,

"Your much obliged humble ſervant,

To Dr. Thornton, Lowther. "JOHN HEYSHAM."

As

As a more certain mean of imparting the cow-pock, I agreed with the parents of one of the villagers, who had the puſtule in a proper ſtate, to ſet out on horſeback, for Carliſle, with his child, Mary Brown, a girl only five years old, which was conſented to; and immediately upon reaching Carliſle, after a journey of twenty-ſix miles, *nine* perſons were inoculated from her by Dr. Heyſham, of which event the following letter is a document.

Carliſle, Nov. 13, 1800.

"Dear Sir,

"I return you my beſt thanks for your very obliging letter, and am certain the inhabitants of this city are under great obligations to you for your kind attention in ſending a healthy ſubject under the action of the cow-pock. Nine children have been already inoculated from her under my inſpection, and ſeveral more will follow their example to-morrow. As ſoon as the infection takes place, I ſhall advertiſe a *general inoculation* at our diſpenſary; by which means I doubt not but the practice will become *univerſal* in this part of the country. My little girl was inoculated with your ſecond lancet the moment it arrived, but without effect, and a third time yeſterday with one received per favour of Sir James Graham. I ſhall attend to your P. S. and

and will recommend to all the ſurgeons to make uſe of very clean lancets, and matter taken early in the diſeaſe *."

" I am, dear Sir, with great reſpect,

" Your much obliged humble ſervant,

" JOHN HEYSHAM."

The pleaſing reſult of the firſt trials at Carliſle will be ſeen from the following letter.

Carliſle, Dec. 6. 1800.

" Dear Sir,

" Mr. Alderman Richardſon left your favour yeſterday evening, when I was out of town; and as I underſtand he means to return to Lowther, either this day, or early to-morrow morning, I embrace this opportunity of informing you that all who have been inoculated here where infection took place, ſince you ſent the little girl, have done extremely well. Not one of them was affected with any conſiderable fever, or any kind of ſickneſs to excite the ſmalleſt uneaſineſs.

* This P. S. alluded to the power of ruſt in deſtroying the ſpecific virtue of the cow-pock matter, and producing, in conſequence, the *ſpurious* inſtead of the *true* puſtule; alſo to the cow-pock puſtule loſing its ſpecific virtue after the ninth or tenth day; vide note * page 114.

" With

"With reſpect to my own child we have been rather unlucky, as ſhe has not received the infection though inoculated three times with the dry matter you were ſo kind as to ſend. And ſince we received the recent matter we have been under the diſagreeable neceſſity of changing her nurſe no leſs than twice, and at preſent, on account of an indiſpoſition common to children, muſt poſtpone the inoculation.

"I have the honour to be, dear Sir,

"Your much obliged humble ſervant,

"JOHN HEYSHAM."

Upon the return of the little child, after this expedition, I was careful in obſerving the effects of ſo long a journey, at this ſeaſon of the year; and I remarked with pleaſure that the fever had been ſlight, but two puſtules came out on the face, which completely maturated, and ſcabbed. Dr. Heyſham generouſly diſcharged all the father's expences at Carliſle; Mrs. Graham at Low-Houſe, in the neighbourhood, who had her child vaccinated, gave him ten and ſixpence; and Dr. Blamire, who took ſome vaccine matter from the child, gave the father a crown; and he alſo received many other preſents, which he very honeſtly mentioned, refuſing what I had agreed to pay him; but I inſiſted upon fulfilling the terms of our original agreement.

The two following letters will ſhew my endeavour to eſtabliſh the cow-pock at *Whitehaven*.

" Sir, Whitehaven, Oct. 25th, 1800.

" I delivered your obſervations, relating to the cow-pox, to Dr. Dixon, who deſires me to ſay that he thinks himſelf highly obliged to you, and requeſts you will ſend him a little of the matter for inoculation, with proper directions how to uſe it, thinking it would be the means of ſaving a great number of lives here *.

" I am, Sir,

" Your moſt obedient and humble ſervant,

Dr. Thornton, Lowther. " JOHN BOWNESS."

" Sir, Whitehaven, Nov. 21ſt, 1800.

" Receiving a letter from my father laſt night, ſtating, that you wiſhed to hear how my brother came on after his inoculation, enables me to embrace the opportunity of returning my grateful thanks for introducing the cow-pock to my brother and myſelf, who have both got through the ſame exceedingly well. I have inoculated ſeveral children at Whitehaven and Workington; likewiſe have fur-

* Dr. Dixon, Dr. Croſtwaite, and Mr. Hamilton, have ſince introduced the vaccine inoculation into the Whitehaven Diſpenſary, and have inoculated a great many.

niſhed ſeveral doctors with matter to do the ſame. They are all fully convinced of the great advantage ariſing from the cow-pock; yet, they inform me, from the bigoted notion of the public, they fear they ſhall not be able to get it introduced. What they allege appears *ſtrange* to me; as with thoſe I had opportunity to inoculate I found it not difficult to do away *any prejudice* that tended to injure the introducing ſo uſeful a diſcovery to the human race. On the 22d inſtant I ſhall have to inoculate near *twenty* of his Lordſhip's work-people's children.

" I remain your moſt obedient

" humble ſervant,

Dr. Thornton, Lowther. " WILLIAM BRYHAM *."

Lancaſter was not forgot, as the following letter will evince.

" Dear Sir, Lancaſter, Dec. 10th, 1800.

" I have this evening received from Mrs. Dilworth (Mr. Yarker's daughter) a little vaccine matter, for which I find I am indebted to you, and for which accept my ſincere thanks. I have found

* William Bryham ſuperintends Lord Lonſdale's collieries, and ſince this period has inoculated above 500; his ſiſter's caſe is in page 204, being among the firſt inoculated in the village of Lowther.

great difficulty in introducing the new inoculation here; and had it not been for a ſenſible and intelligent *lady*, Lancaſter would not yet have witneſſed its introduction. Since then I have inoculated ſeveral, perfectly to my ſatisfaction; and the other day I made propoſals to my friend Mr. Baſendale, who is ſurgeon to the Lancaſter Diſpenſary along with myſelf, to inoculate the poor in this town and its vicinity, gratis. With pleaſure I inform you it met with his approbation, and with that of Dr. Campbell, and in a few days we begin the buſineſs.

" I am, dear Sir, with great reſpect,

" Your obedient and faithful ſervant,

" J. A. BRATHWAITE."

Nor was *Appleby* forgot, as the following letter will ſhew.

" Dear Sir, Appleby, Dec. 17, 1800.

" This day week I inoculated fifteen with fluid cow-pox matter, all of whom, excepting one or two (which are dubious), have taken the infection, and the puſtules look charmingly. The prejudices of the common people againſt the operation are ſinking to nothing; and I am fully perſuaded, that in a very little time the inoculation will become

general.

general. I will not fail to tranſmit to you a regular account of thoſe under my care.

" I remain, dear Sir, with great reſpect,

" Yours moſt ſincerely,

" JOHN BUSHBY."

Nor was even *Ulverton* omitted by me.

" Dear Sir,

" With the lancet you *laſt* ſent me I inoculated RIGGE, but am much afraid, from the appearance of the inciſions, or rather punctures, not with the ſucceſs which has attended my other operations in this new and excellent practice. I have here matter taken from the arms of ſome of my patients; but, from a prejudice which you will eaſily allow for, his friends here will not allow the diſeaſe to be produced in him by any other means than ſuch as originates from you *directly*. I muſt, therefore, trouble you to ſend me a little freſh matter for him as ſoon as convenient. In ſending ſmall-pox matter to a diſtance, I have found it very certainly ſent by having two ſmall ſquare pieces of glaſs, one ſurface of each being beſmeared with the matter, applied together, and tied by a piece of thread.

" I have already inoculated between twenty and thirty of different ages, from matter you firſt ſent, and they have had little or no fever or any obſerv-

able complaint, ſave the local inflammation of the punctured parts; except in one inſtance, a daughter of Mr. Sandy's of Grathwaite-Hall, who became feveriſh the fifth day after being inoculated, and had three puſtules upon her face, which were filled with a much more tranſparent fluid than ſmall-pox generally contains, and theſe literally ſcabbed like the inoculated puſtule on the arm.

"You will accept my beſt thanks for your kind attention, and believe me,

"I am, dear Sir,

"With the greateſt eſteem,

"Your much obliged, and obedient ſervant,

"WILLIAM. HARRISON."

Ulverſtone,
Dec. 1, 1800.

I could alſo mention *Penrith*, *Kendal*, *Temple-Sowtherby*, and many other towns about Lowther, in which I introduced the vaccine inoculation: but am fearful it would too much treſpaſs on the patience of my readers. I ſhall, therefore, haſten to the pleaſing contemplation of having, I think, been inſtrumental by this means in the extirpation, for the preſent, of the ſmall-pox from this diſtant part of England: for having requeſted, a year after my inoculation of the village of Lowther, that Mr. STORY would re-inoculate

re-inoculate theſe villagers with ſmall-pox matter, I received from him the following letter.

" Dear Sir, Penrith, Nov. 7, 1801.

" I received your favour, and would with pleaſure comply with your requeſt, if I could get any matter for inoculation. I have ſent to *Carliſle*, *Keſwick*, *Appleby*, &c. and I am well informed *that there is no ſmall-pox in this country at preſent, owing to your inoculation with the cow-pox.* I firſt went, as you wiſhed, to Lowther, to acquaint Lord Lonſdale with the contents of your letter; and his Lordſhip ſays, he has not the leaſt objection to the children in the village being inoculated with the ſmall-pox matter, which would be directly done, provided I could get the matter, which at preſent I cannot; but whenever I am able to procure any, you may reſt aſſured, that I will with much pleaſure comply with your requeſt; and

" I have the honour to remain, dear Sir,

" Your moſt obliged humble ſervant,

" RICHARD STORY."

Hence I had occaſion to ſend down to Penrith the ſmall-pox matter between two pieces of glaſs

for Mr Story, to re-inoculate the inhabitants of Lowther village, and his report was as follows.

Penrith, Nov. 20, 1801.

" Dear Sir,

" The glaſſes with the ſmall-pox matter arrived ſafe, and with conſiderable pleaſure I ſet about re-inoculating thoſe perſons who the laſt year had been inoculated by you with the cow-pock in the village of Lowther; and I remarked with much ſatisfaction that I found none whom I inoculated to take the ſmall-pox, the places of inſertion of the matter in a few days dying away. This makes the experiment at Lowther deciſive. It afforded much pleaſure to his Lordſhip, who deſires to be kindly remembered to you, and wiſhing you, ſir, all the rewards your great exertions for the good of mankind, and advancement of ſcience, ſo juſtly merit.

" I have the honour to be,

" Dear Sir,

" Your obliged faithful ſervant,

" RICHARD STORY."

GROUND FOR HOPES OF THE TOTAL EXTIRPATION OF THE SMALL-POX.

The diſappearance of the ſmall-pox from ſo *many towns* in the north of England from the cow-pock inoculation, muſt give the moſt heartfelt ſatisfaction to every mind endowed with ſenſibility, and as being an epitome of the greater conqueſt, namely, the extirpation throughout the globe of the ſmall pox, in our humble opinion, merits to be recorded as the *harbinger* of that effulgent day, when the benign radiance of the cow-pock like the ſun will extend its glorious influence throughout every clime. Already it has been *partially* received in all the civilized countries of the habitable globe, and promiſes ere long to realize the juſt expectations of its warmeſt advocates, by being *generally* adopted from the judicious and proper interference of the LEGISLATIVE POWERS †.

† Vide Note * page 238. When the ſmall-pox was firſt introduced into Otaheite, and the deſtruction was ſo great, as to threaten the entire ſubverſion of the ſtate, theſe *ignorant ſavages* formed laws, by which they ſtopt the progreſs of the calamity. MEAD.—How much more reaſon have we then to expect the ſubjugation of this formidable enemy of the human race, in a more enlightened period, and from more enlightened ſtateſmen, an eaſier mean being now in our power, that reſtrictive laws to prevent infection, namely the cow-pock,

pock inoculation, which, perhaps, might be enacted in each ſtate, for no one is born for himſelf alone; each being placed with reference to the community!—And thus there being no longer left any *fewel* for the ſmall-pox to blaze up into a great national calamity, hence the delightful proſpect of the ſpeedy and certain annihilation of the ſmall-pox throughout the whole habitable globe.

Dr.

Dr. JENNER's PETITION.

A Petition of Edward Jenner, Doctor of Phyſic, was preſented, Wedneſday, March 17, 1802, by Admiral Berkeley, to the Houſe of Commons, and read; ſetting forth, "That the Petitioner having diſcovered that a diſeaſe, which occaſionally exiſts in a particular form among cattle, known by the name of Cow-pox, admits of being inoculated on the human frame with the moſt perfect eaſe and ſafety; and although its ſymptoms are ſo mild as ſcarcely ever to prove even a temporary impediment to the ordinary courſe of health, yet it is attended with the ſingularly beneficial effect of rendering through life the perſon ſo inoculated ſecure from the infection of the ſmall-pox; and that the Petitioner, after the moſt laborious and attentive inveſtigation of the ſubject, ſetting aſide all conſiderations of private advantage, and anxious to promote the ſafety and welfare of his countrymen, and of mankind in general, did not wiſh to conceal a diſcovery ſo made, on the mode of conducting this new ſpecies of inoculation, but immediately diſcloſed the whole to the public, and, by communication with medical men in all parts of this kingdom and in foreign countries, ſedulouſly endeavoured to ſpread the knowledge of his

his diſcovery and the benefit of his labours as widely as poſſible; and that, in this latter reſpect, the views and wiſhes of the Petitioner have been completely fulfilled, for, to his high gratification, he has to ſay, that this inoculation is in practice throughout a great proportion of the civilized world, and has in particular been productive of great advantage to this kingdom, in conſequence of its being introduced, under authority, into the army and navy, and that the ſaid inoculation hath already checked the progreſs of the ſmall-pox, and from its nature muſt finally annihilate that dreadful diſorder; and that the ſeries of experiments by which this diſcovery was developed and completed, have not only occupied a conſiderable portion of the Petitioner's life, and have not merely been a cauſe of great expence and anxiety to him, but ſo interrupted in the ordinary exerciſe of his profeſſion, as materially to abridge its pecuniary advantages without their being counterbalanced by thoſe derived from the new practice; and that the Petitioner, with a view to obviate doubts, which of late were *falſely* * repreſented to have ariſen in a foreign country reſpecting the efficacy and certainty of the vaccine inoculation, and thereby to enable himſelf with better confidence to ſolicit the favourable attention of the Houſe, was induced to delay his

* Vide the Appendix, page 237.

application,

application till after the time limited by the Houſe for receiving petitions of a private nature was elapſed; and therefore praying, That leave may be given to exhibit a petition, that the Houſe will be pleaſed to take the premiſes into conſideration, and grant him ſuch remuneration as to them ſhall ſeem meet.

ORDERED, That, in conſideration of the particular circumſtances ſet forth in the ſaid petition, leave be given to preſent the petition as deſired.

Then a petition of EDWARD JENNER, Doctor of Phyſic, being offered to be preſented to the Houſe, Mr. ADDINGTON, Chancellor of the Exchequer, (by His MAJESTY's command,) acquainted the Houſe, That HIS MAJESTY, having been informed of the contents of the ſaid petition, recommends it to the conſideration of the Houſe.

Hence the ſaid petition was brought up and read, containing the ſame allegations as the preceding petition; and praying the Houſe to take the premiſes into conſideration, and to grant him ſuch remuneration as to them ſhall ſeem meet.

ORDERED, That the ſaid petition be referred to the conſideration of the Committee, and that they do examine the matter thereof, and report the ſame as it ſhall appear to them to the Houſe.

And

And a Committee * was appointed accordingly, and they have power to ſend for perſons, papers, and records.

ORDERED, That five be the quorum of the ſaid Committee.

* Being ſummoned before this Committee, I had the honour perſonally of preſenting them the preſent work, preſuming, that as a medical man I ſhould ſtand excuſed the liberty I took; and I ſhall conclude with hoping, that when the rulers of a generous nation ſhall have decreed a full remuneration to Dr. JENNER (for here liberality and juſtice are the ſame) that they will alſo make wiſe regulations againſt the ſmall-pox inoculation, here proved to be a Public Nuiſance, as *deſtructive* as, at the preſent period, it is *unneceſſary*. Whether an order for a *general inoculation* of the *cow-pock* is conſiſtent with a free ſtate may be doubted by ſome, but laws againſt the *ſmall-pox*, as againſt the *plague*, are not only allowable, but called for; and this, with the ſanction of Parliament to Dr. JENNER, would operate more than any thing elſe to obtain the full eſtabliſhment of the cow-pock inoculation in theſe united kingdoms.

APPENDIX.

With a view to counteract the influence of falſe reports in England reſpecting vaccine inoculation, induſtriouſly ſpread to prejudice the public mind, the following Testimonial was drawn up and ſigned by the moſt reſpectable practitioners in London, and publiſhed in all the periodical pamphlets and newſpapers.

"Whereas many unfounded reports having been circulated, which have a tendency to prejudice the public againſt the inoculation of the cow-pox; we, the underſigned phyſicians and ſurgeons, think it our duty to declare our opinion, that thoſe perſons who have had the cow-pox are *perfectly ſecure* from the future infection of the ſmall-pox.

"We alſo declare, that the inoculated cow-pock is a much *milder* and *ſafer diſeaſe* than the inoculated ſmall-pox.

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The REPORT of the Committee of vaccine inoculation at Paris, inſtituted by the order of Government, ſigned by the moſt eminent practitioners there, may be ſeen page 143 of this work.

THE END.

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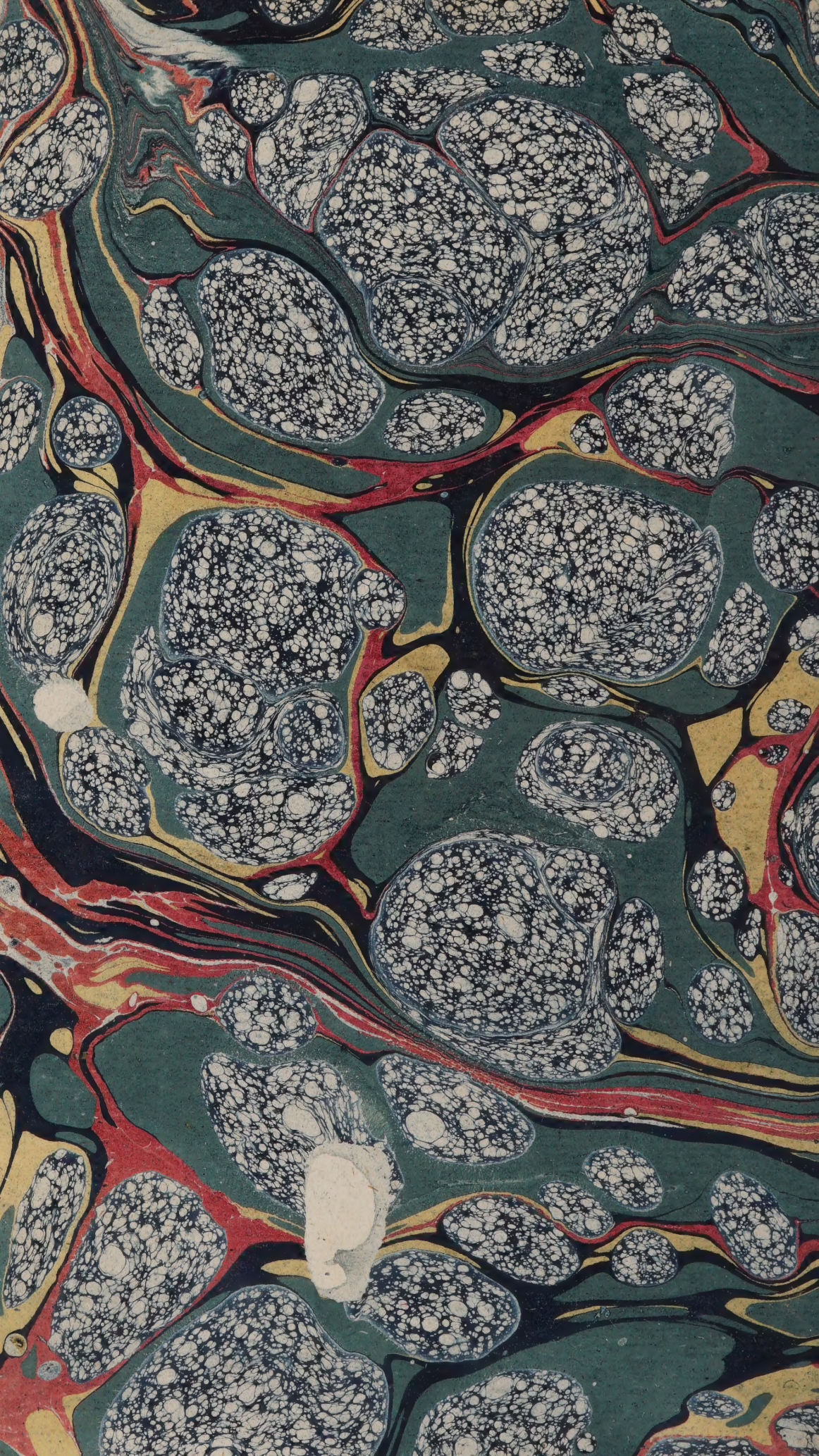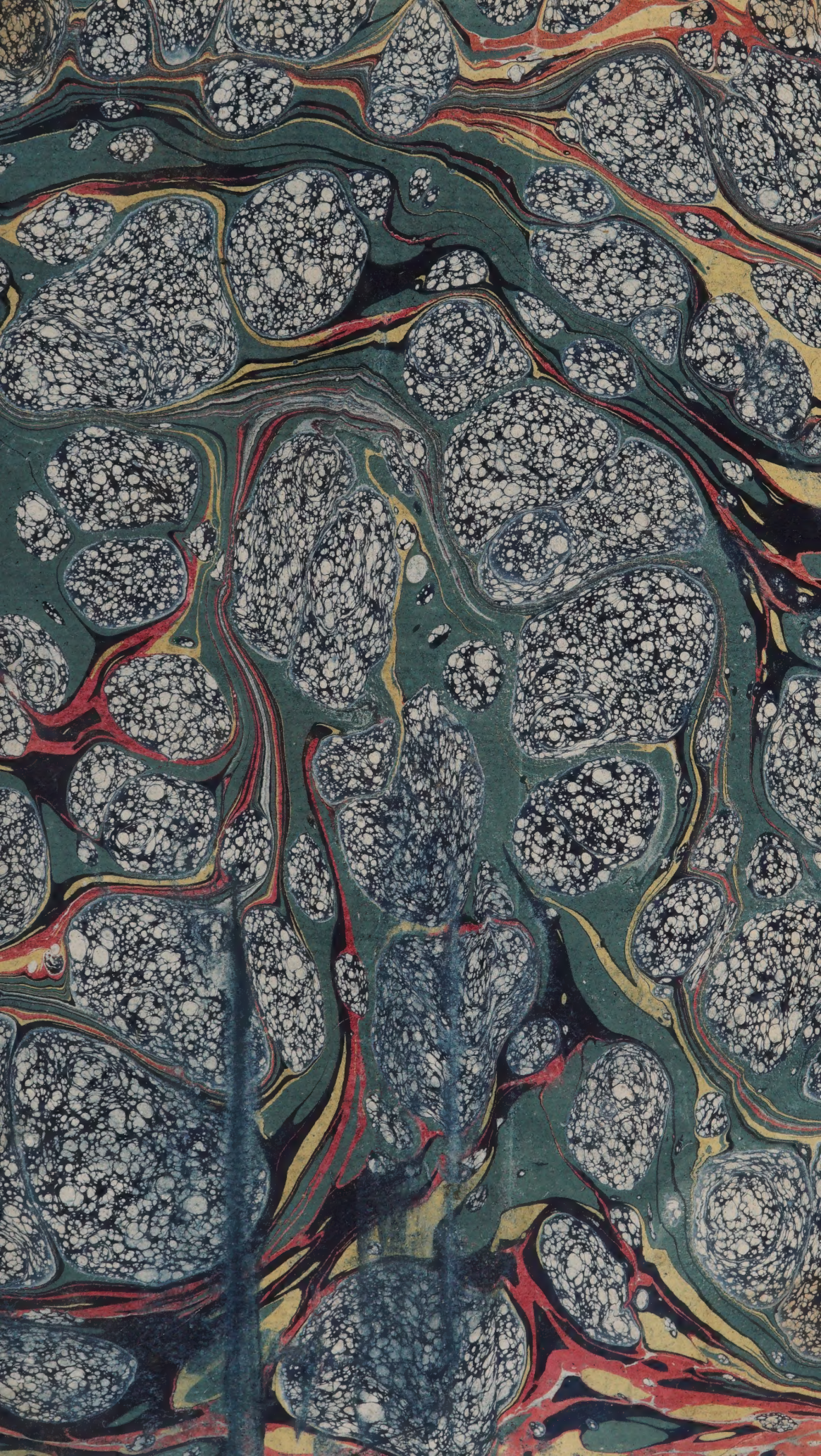
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